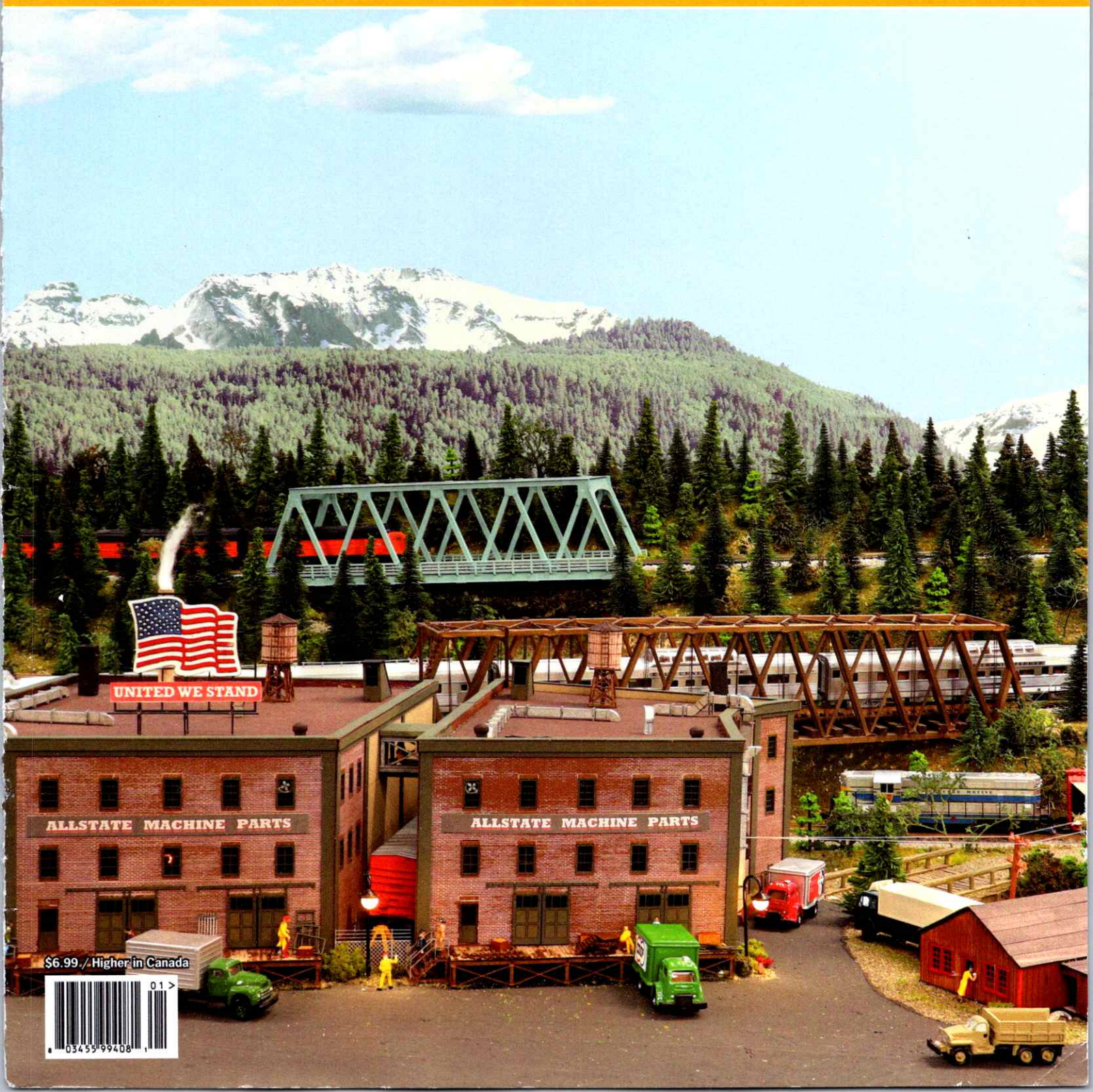
N Scale

MARCH / APRIL 2021



$6.99 / Higher in Canada

EMD SD70ACe
Union Pacific #1111
"Powered by our People"

KATO
PRECISION RAILROAD MODELS

N Scale

Union Pacific's Locomotive No. 1111 – The Employee Pride Locomotive – was created to honor the men and women of the Union Pacific Railroad.

The paint design, selected through a systemwide online employee vote, highlights Union Pacific's unique and diverse employee population while representing the critical crafts and skills that do the work. The graphic novel approach, utilizing solid color pallets, shading techniques and larger-than-life figures, pays homage to UP's employees and their true heroics essential in building America.

In 2021, Kato USA is recreating this stunning engine in all of its glory in N scale with the release of the SD70ACe #1111 "Powered by our People" engine. Available in DC, DCC, and with DCC + Sound as a special order item, this engine joins other such unique engines as the "Spirit" and "George Bush Presidential Library" in Kato's lineup of specially painted SD70ACe engines. Order yours today from your preferred hobby shop to make it a part of your own UP fleet!

Each side of the #1111 "Powered by our People" engine depicts a unique mural style decoration featuring the diverse jobs and people who keep the Union Pacific running in its day to day operations.

The powerful artistic expression of the #1111 locomotive has been painstakingly recreated in N scale by Kato's skilled artists and printers, creating a near picture-perfect reproduction of this engine's gorgeous artwork. Clad in a sky blue body paint with red, yellow, Slate Gray and dark blue accents, this engine is one of the more strikingly beautiful engines that Kato has had the privelege to reproduce.

Available Now!

Item #		Description	MSRP
#176-8412	*NEW*	**N EMD SD70ACe Union Pacific #1111 "Powered by our People"**	138.00
#176-8412-DCC	*NEW*	**N EMD SD70ACe Union Pacific #1111 "Powered by our People"** *w/ Pre-Installed DCC* *Fitted with a Digitrax 163K1C Decoder for Ready-to-Run operation*	218.00
#176-8412-LS	*NEW*	**N EMD SD70ACe Union Pacific #1111 "Powered by our People"** *w/ ESU LokSound DCC* *Fitted with an ESU LokSound Sound Decoder for out of the box Sound operation*	340.00

See Kato's latest Amtrak offerings and more at our youtube channel!
youtube.com/KatoUSAinc

Stay updated on all of the latest Kato News - Follow us on Twitter and Facebook!
@KatoUSAInc
/officialkatousainc

100 Remington Road Schaumburg, IL 60173 (847) 781-9500 www.katousa.com

20' Tank containers
- Q1 2021 Releases

Military Series
Containers - Q1
2021

53' 8-55-8 EMP (faded ex-FEC) and MATSON containers - Q1 2021 Releases

www.jtcmodeltrains.com

Volume 33 Number 2
March/April 2021

N-Scale

San Joaquin, Part 1 – Page 42

DCC Workshop – Page 34

Birth of a Model Railroad, Part 13 – Page 16

Short & Nn3arrow – Page 52

TABLE OF CONTENTS

Review: Allstate Machine Parts Kit 14
ITLA Scale Models
by Dennis Murphy

Birth of a Model Railroad 16
Part 13, Engine Facilities and Other Yard Buildings in Aberdeen.
by Walt Huston

A Study In Nature 20
Part 7 (Bridge Embankments)
by Dennis Murphy

In Pursuit of WOW 24
Part 10 – Stacked Lumber Loads, All Expposed for the World to See
by Dennis Machlica

DCC Workshop 34
Locomotive Lighting
by Timothy J. Horton

San Joaquin 42
A 12 foot NTRAK Module Set, Part 1
by Bob Parsons

The Short & Nn3arrow 52
Modeling the Pacific Coast Railway (Part 12) – Oops!; Avila Section; In the Tall Grass
by Thomas Knapp, MMR #101

DEPARTMENTS

Editorial 6
New Products 10

On the cover: On a beautiful spring morning in the year 1962, "Train World" has a brand new commercial enterprise, and the locals could not be happier about it! The parent holding group of the "Allstate Machine Parts Company" spent many months researching for the perfect location for their new manufacturing facility. They found the combination of easy rail access, mild year-round weather, good road access, a very accommodating local government (and tons of favorable tax considerations), and most importantly: A very willing workforce. This new facility is sure to bring a multitude of good-paying jobs and prosperity to the entire region. *By Dennis Murphy.*

Want to know more? Wonder what's coming up?
Visit us at: www.nscalemagazine.com
or contact us at: info@nscalemagazine.com

train-worx.com

N SCALE

Coming fourth quarter 2021

See the full line up at train-worx.com

email: trainworx@wic.net
P.O. Box 127 - Delta, CO 81416
(970) 874-9747

FIFER HOBBY SUPPLY

Your Local Internet N Scale Hobby Shop

www.fiferhobby.com

SUPER SERVICE
AND
FAIR PRICES

Actual Shipping
We Ship International

Pacific Western Rail Systems Special Run Car

ANNOUNCING OUR NEXT LIMITED RUN

PWRS

MICRO-TRAINS® LINE

DENVER & RIO GRANDE WESTERN (D&RGW)
2-BAY COVERED HOPPER 4-PACK

COMING DEC 2021

Specific Weathered Effects on Sides/Roof, General Weathering Effects on Ends/Belly

BURLINGTON NORTHERN (BN) 50' BOXCAR
SINGLE DOOR, RIB SIDE 4-PACK

50' Boxcar with Single Door, No Roofwalk
Two Cars Feature a Red Door
Heavily-Weathered Cars with Unique Graffiti

COMING NOV 2021

pwrs.ca

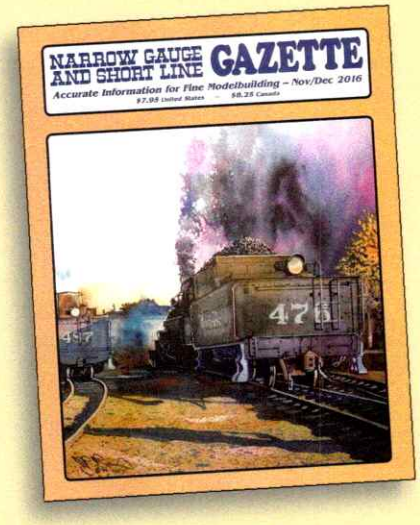
TRAIN ADDICTION HELP LINE
866-840-7777

N® SCALE 1:160

Pacific Western Rail Systems

The growing White River Productions family now includes

NARROW GAUGE AND SHORT LINE GAZETTE



Presenting accurate information for fine model building since 1975, the Gazette is your resource for narrow gauge layouts, projects, and plans.

ONE YEAR, SIX ISSUES

$40.00 in U.S.

CANADA $45.00
INTERNATIONAL $55.00

Subscribe today at ngslgazette.com

WHITE RIVER PRODUCTIONS

Toll-free (877) 787-2467 • Overseas (660) 695-4433
P.O. Box 48, Bucklin, MO 64631 • info@WhiteRiverProductions.com

EDITORIAL

Here we are, two months into 2021, and feeling good about the plethora of exciting new products coming from all of our regular manufacturers and a number of new ones. Check through all of the advertisements and note the new ones. I have been seeing quite a few new products hitting the market in the form of locomotives, rolling stock, animals and structures. I am quite pleased with what's coming soon. I hope you are too. To me, it's amazing that manufacturers are hanging in there with new releases every month. Check out the ads in this issue; you will find lots of good stuff coming our (modelers/hobbyists) way.

I am still hoping to see some swap meets and conventions this year. Modelers need these events in order to meet other modelers and make some very necessary purchases for their layouts/modules/dioramas. There are a large number of our fellow train nuts in need of these opportunities. I'm sure we will see a return to swap meets and conventions sooner than we think.

A big Thank You to all of you who entered our "Free Stuff Contest." The winners will be revealed in the May/June issue. We also Thank all of our readers for their continued support. Not to mention our thankfulness for the 100s of new subscribers for both the print copy and our digital issue.

We have an exciting array of articles coming in this and the following issues. I am sure you will find something in each and every one of them that you will enjoy.

I have been enjoying an occasional visit from one or another of my long time modeling buddies. We get together out in my shop building and do what modelers do, following the directions of our Governor regarding use of masks and social distancing between us. We have done things like getting a few DCC locomotives running again after a couple of years sitting idle in drawers. I think I need to rotate my locomotives more often to avoid the problems. Maybe some of you need to do the same. Headache avoidance is always a good thing. At my latest "session," Pete Sanchez (Advisory Board Member) brought his Rolling Thunder package to demonstrate. I determined it was too loud for my layout. It is well suited for use at train shows/swap meets that accompanies a crowd of excited people, young and old.

Since it is a long time between my writing this and it appearing in print, I hope you are doing well and looking forward to a nice warm summer.

Walt

Publisher
Pamela Clapp

Editor
Walt Huston

Design/Graphics
Andrew Schlotfeldt

Advisory Board
Tim Anderson • Dick Billings
Roy Cutler • Dean Daughenbaugh
Timothy Horton • Walt Huston
Ron Nowka • Loren Perry
Pete Sanchez • Jake Schultz

Digital Subscriptions Now Available

PRINT SUBSCRIPTION RATES

United States (6 issues)
Second Class: Print – $38.00 1 year, $72.00 2 years, $103.00 3 years.
Washington residents add 9.3% sales tax.

Canada (6 issues)
First Class: Print – $55.00 1 year, $95.00 2 years, $140.00 3 years.

Foreign (6 issues)
First Class: Print – $80.00 1 year, $140.00 2 years, $205.00 3 years.

(See Website for Digital and Print/Digital combo rates.)

Please make checks payable to: Platinum Rail Publications

ADVERTISERS/DEALERS
For advertising and dealer information, please contact:

Platinum Rail Publications
5811 75th Avenue NE
Marysville, Washington 98270
Phone: (360) 658-2485
E-mail: info@nscalemagazine.com
Website: www.nscalemagazine.com

N-Scale Magazine
(ISSN 1045-5140, USPS#004-928-N SCALE) is published bi-monthly (6 times per year) by:
Platinum Rail Publications
5811 75th Avenue NE
Marysville, WA 98270

Periodicals postage paid at Marysville, WA and additional mailing offices.

POSTMASTER: Send address changes to:

N-Scale Magazine
5811 75th Avenue NE
Marysville, WA 98270

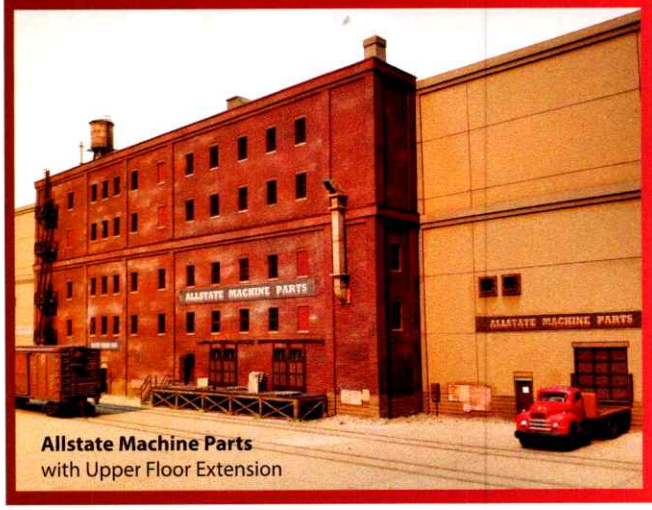
Copyright ©2021 Platinum Rail Publications
All Rights Reserved Printed in U.S.A.

N-Scale welcomes your feature articles, drawings, and color photos. Such material should be sent for possible publication to:

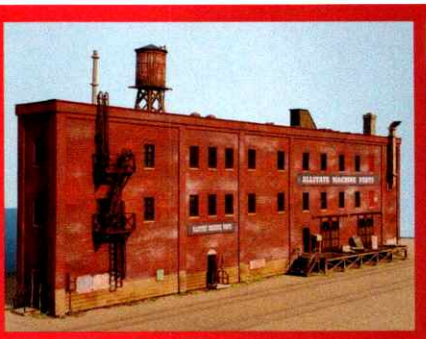
N-Scale Magazine
5811 75th Avenue NE,
Marysville, WA 98270

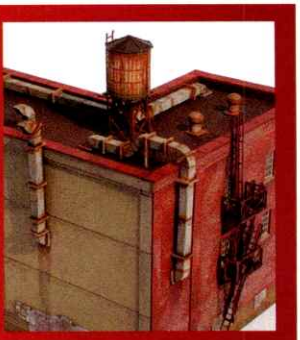
ITLA Scale Models Inc.

www.ITLASCALEMODELS.com



Allstate Machine Parts
with Upper Floor Extension





Fine Scale Laser Cut Wood Kit- *Etched Brick & Concrete Walls, 3D Printed Parts, Modular Design – configure the walls to fit your space. Exclusive Roof Top, Wall, & Dock details.*

ITLA Modular Design Multiple Footprints

Laser Etched Wood Kits

SEE OUR WEBSITE FOR MORE INFORMATION
www.itlascalemodels.com

N SCALE 1:160

ILLINOIS CENTRAL #2
HEAVYWEIGHT 5-PACK

COMING JUNE 2021

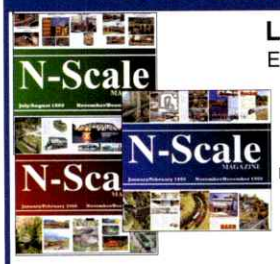
Renderings shown for representation only.

#993 01 791
$149.95

MICRO-TRAINS® LINE

Available through your local Micro-Trains dealer or online at www.micro-trains.com
P.O. Box 1200, Talent OR 97540-1200 USA • Email: mtl@micro-trains.com • Tel: +1 541-535-1755

30-YEARS OF N-SCALE MAGAZINE NOW ON CD!



Looking for a simpler way to track down that early *N-Scale* Article?
Each CD offers an index by issue • PDF format • Subsequent five year increments to follow

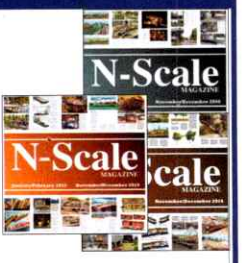
Order now for your very own archive of N-Scale Magazine!

$25.00 PER DISC / $20.00 each TWO OR MORE

US S&H: ONE CD $5.00 /TWO CD $7.50 /THREE CD $10.00 /FOUR CD $15.00 /FIVE CD $17.50 /SIX CD $20.00
FOR. & CAN. S&H: ONE CD $10.00 /TWO CD $12.50 /THREE CD $15.50 /FOUR CD $20.00 /FIVE CD $25.00 /SIX CD $29.50

Now Available CD #6 Jan/Feb 2015 - Nov/Dec 2019

www.nscalemagazine.com



VISA/ MC No: _____ **EXP:** _____

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

QTY:_____ **VOLUME 1: JUL/AUG 1989 - NOV/DEC 1994**
_____ **VOLUME 2: JAN/FEB 1995 - NOV/DEC 1999**
_____ **VOLUME 3: JAN/FEB 2000 - NOV/DEC 2004**
_____ **VOLUME 4: JAN/FEB 2005 - NOV/DEC 2009**
_____ ***VOLUME 5: JAN/FEB 2010 - NOV/DEC 2014***

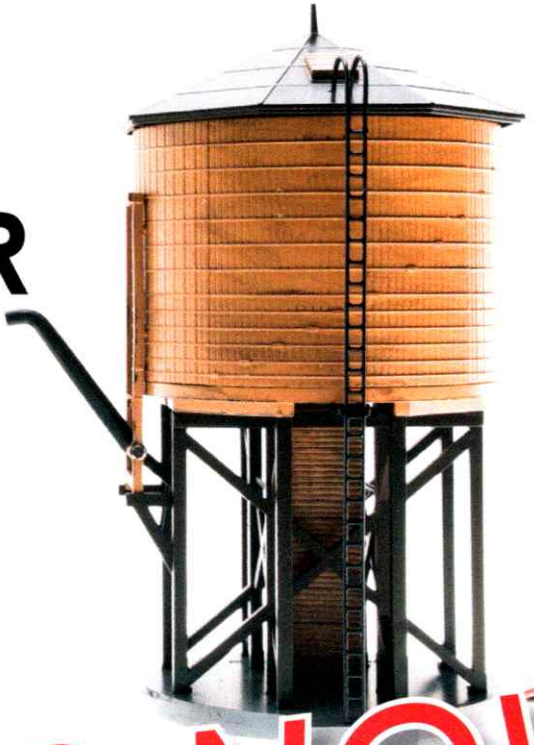
NOW AVAILABLE: _____ ***VOLUME 6: JAN/FEB 2015 - NOV/DEC 2019***

PLATINUM RAIL PUBLICATIONS | 5811 75th Avenue NE Marysville, WA 98270-8968 | Phone (360) 658-2485

VISA MasterCard

N SCALE

operating WATER TOWER w/ sound



MOTORIZED SPOUT WITH SOUND!

IN STORES NOW.

N SCALE

sound-equipped STOCK CARS

cattle • hogs • mules

WE'VE GOT THE MOST FUN MODEL RAILROADING PRODUCTS IN N SCALE!

THEY'RE IN STORES NOW. DO YOU HAVE YOURS?

WWW.BROADWAY-LIMITED.COM

SEE THE DIFFERENCE
ARRIVING SUMMER 2021
GE DASH 9
The Rivet Counter series DASH-9 continues to set new standards for railroad, road number and era-specific features, factory-applied detail parts, LED lighting effects, and sound in N Scale.
Also Available in: NS NORFOLK SOUTHERN
5441
4560
BNSF
N 1:160 SCALE
N Scale Preproduction Models Shown
Scene and photography by Ken J Johnson
SCALE TRAINS .COM
© 2021 ScaleTrains.com, Inc. ScaleTrains.com, Rivet Counter, and respective logos are trademarks of ScaleTrains.com, Inc. This product is made under trademark license from General Electric (GE).
ScaleTrains.com, Inc. 7598 Highway 411 Benton, TN 37307
844-9TRAINS 844-987-2467 • International 423-299-3689
WWW.SCALETRAINS.COM

Checked us out lately?

- ☑ 20+ years of N scale products.
- ☑ Laser-cut Structures & Bridges.
- ☑ Advertising & Storefront Signs.
- ☑ Highway Signs, vintage & modern.
- ☑ New Detail Items.
- ☑ Laser-cut Grade Crossings.
- ☑ Billboards, roadside & rooftop.
- ☑ Laser-cut Graffiti Decals
- ☑ 1000's of satisfied customers.

Ask for our products at your dealer. Check out our products online or request our free catalog.

Blair Line LLC
PO Box 1136, Carthage, MO 64836
www.blairline.com

WIG-WAG, LLC
www.wig-wag-trains-cart.com
Personal service, Great pricing.
Your N-Scale supplier! Actual cost shipping.
1-888-298-7177

STREAMLINED BACKSHOP SERVICES

www.SBS4DCC.com

ESU · SOUNDTRAXX · Tsunami 2 · ACCUTRACK II SPEEDOMETER · WOWSound · FULL THROTTLE · DCC concepts · DCC Specialties · TCS · DIGITRAX · TAM VALLEY DEPOT · NCE The Power of DCC · SPROG DCC · TEAM DIGITAL · ZIMO

IN STOCK - OPEN 24-7

Sugar Cube Speakers
4 Models X **10** Baffles
= **40** Sweet Options

HOME OF THE "SUGAR CUBE"

INTERMOUNTAIN · MICRO-TRAINS LINE · ATLAS MODEL RAILROAD CO., INC. · KATO PRECISION RAILROAD MODELS · GoodDealsDCC

1000's OF N SCALE LOCO'S
TRACK - COUPLERS - SUPPLIES

NATIONAL CAPITAL TRAINS

DCC and Sound Specialists: We offer a wide selection of Broadway Limited , Fox Valley Models, InterMountain Railway, Kato USA, and Rapido Trains models, including most diesels equipped with DCC and/or Sound.

We also carry a large stock of N scale DCC and Sound models of steam locomotives, ranging such as SP Cab Forwards, SP and UP Northerns, and PRR Mountains. This is in addition to our always large stock of hard-to-find analog diesels, electrics and steam locomotives. If you model foreign trains, we also offer Japanese and European prototype models.

Phone: 571-438-2800
nctrains99@gmail.com
Website: www.nationalcapitaltrains.com

9001 Scott Street • Springfield, VA 22153-4113

NEW PRODUCTS

Sea Port Model Works – 80' Lighter Barge Kit
80' long × 29' beam (full scale size). 6" long × 2¼" wide (actual size) Item #H121 Price: $49.95 (figures not included)

The barge is used to haul freight to and from larger transport vessels, allowing freight transfers in waters that a vessel is unable to tie up to conventional piers. The freight might be fuel, fresh fruit and vegetables, canned goods, drummed oil and chemicals, cotton, lumber, etc. The mast and long boom allow for reasonable access to the deck and holds of larger vessels, as well as access to piers. The barge could be self-propelled, but more than likely it would be moved around with the aid of a tug.

This kit is designed to give the modeler the best advantages in building and finishing a terrific model, with a solid resin hull, pilot and deck house, and quality pewter castings. All of the original patterns were made in shop, with reference to the details of several prototypes, and much research in books, museums, photographs, and conversations with master modelers.

Sea Port Model Works
(603) 498-3849 www.seaportmodelworks.com

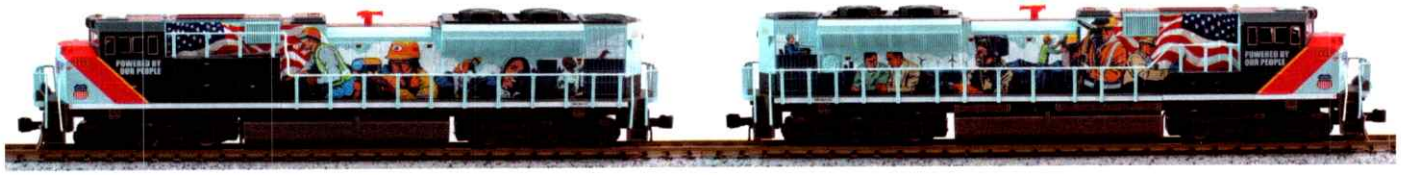
Pacific Western Rail Systems – 3-Bay ACF Center Flow Covered Hopper, w/ Elnongated Hatches
Chessie System (yellow, black lettering, weathered) Item #489-09490046 Price: $199.95 (4-pack)
Includes Road Numbers #CSXT 254778, 255195, 255370, and 255181

Pacific Western Rail Systems
15515 24th Avenue, Surrey, British Columbia, Canada (866) 840-7777 Fax: (604) 542-0793 retail@pwrs.ca www.pwrs.ca

Showcase

The SD70ACe is the latest in the line of EMD's "70" locomotives, an evolution of the SD70MAC, although its radiator design harkens more to that of the SD80/90 body. The SD70ACe has been designed to fit the latest EPA standards and regulations, and sports 4300 horsepower.

Produced in UP's six "Heritage" schemes, along with two special editions, these models feature prototype-accurate truck and five chime airhorn; powerful 5-pole Kato motor with dual brass flywheels; directional headlight and illuminated, preprinted numberboards; illuminated ditch lights; and Kato magnetic knuckle couplers.



Kato USA, Inc. – EMD SD70ACe Locomotive
Union Pacific ("Powered by our People") UP #1111 Item #176-8412 Price: $138.00 US (DC/Silent)
Item #176-8412-DCC Price: $218.00 US (w/ Digitrax DCC) | Item #176-8412-LS Price: $340.00 US (w/ ESU LokSound DCC, *special order only*)

KATO USA, Inc.
100 Remington Road, Schaumburg, IL 60173 847-781-9500 www.katousa.com

ITLA Scale Models, Inc. – Allstate Machine Tool – Building Kit w/ 4th & 5th Floor Extension Kit
Item #N3151 Price: $149.99

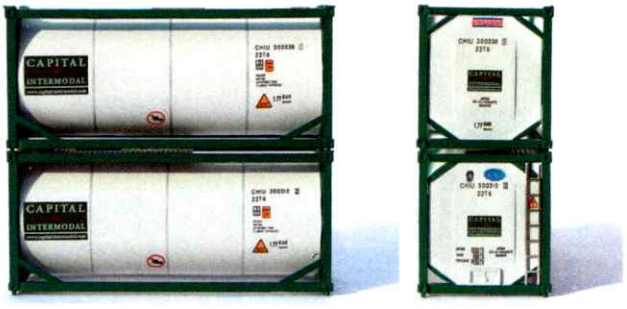
This expanded kit adds 4th & 5th floors to ITLA's Allstate Machine Tool building kit (#N3150). Following a modular design strategy, this kit can be built in multiple footprints, from Shallow Relief (from 11"L×1"W×6"H) to Open Back Flat (up to 21.6"L×1"W×6"H) formats. Instructions include build tips and schematics for 12 footprints.

ITLA Scale Models, Inc.
www.itlascalemodels.com 1-404-IMAGINE imaginethatlaserart@gmail.com

NEW PRODUCTS

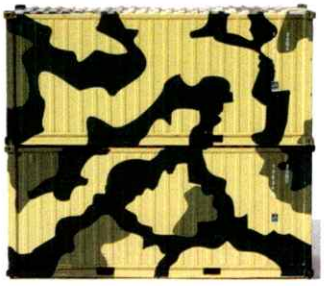
Jacksonville Terminal Co. – 20' Std. Height Tank Container
SCF (Full length ¾ around walkway)
Item #JTC-205225 Price: $34.95 (2 pk)

Jacksonville Terminal Co. – 20' Std. Height Tank Container
LAABS Tank-Logistic (Full wrap around walkway)
Item #JTC-205236 Price: $34.95 (2 pk)



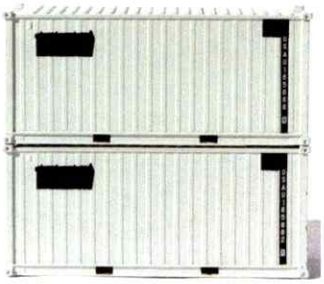
Jacksonville Terminal Co. – 20' Std. Height Tank Container
Capital (½ length, ¾ width)
Item #JTC-205242 Price: $34.95 (2 pk)

Jacksonville Terminal Co. – 20' Std. Height Tank Container
Military Series (Full wrap around walkway)
Item #JTC-205276 Price: $34.95 (2 pk)



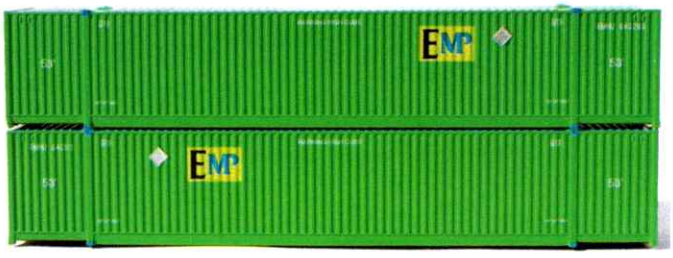
Jacksonville Terminal Co. – 20' Std. Height Container
Military Series US Army Camo 'A'
Item #JTC-205387
Price: $29.65 (2 pk)

Jacksonville Terminal Co. – 20' Std. Height Container
Military Series APMU Camo 'A'
Item #JTC-205389
Price: $29.65 (2 pk)



Jacksonville Terminal Co. – 20' Std. Height Container
Military Series USAU Gray Patch 'A'
Item #JTC-205454
Price: $29.65 (2 pk)

Jacksonville Terminal Co. – 20' Std. Height Container
Military Series USMU 'A'
Item #JTC-205449
Price: $29.65 (2 pk)



Jacksonville Terminal Co. – 53' 8-55-8 High Cube Containers
EMP Item #JTC-537003 Price: $33.95 (2 pk)

Jacksonville Terminal Co. – 53' 8-55-8 High Cube Containers
CH Robinson Item #JTC-537006 Price: $33.95 (2 pk)

Jacksonville Terminal Company, LLC
service@jtcmodeltrains.com www.jtcmodeltrains.com

NEW PRODUCTS

Trainworx, Inc. – 52'6" Gondola
Louisville and Nashville (6 Road Numbers)
Item #s 25209-(01-06) Price: $28.95 each

Trainworx, Inc. – 52'6" Gondola
Louisville and Nashville (6 Road Numbers)
Item #s 25209-(07-12) Price: $28.95 each

Trainworx, Inc. – 52'6" Gondola
Seaboard (6 Road Numbers)
Item #s 25251-(01-06) Price: $28.95 each

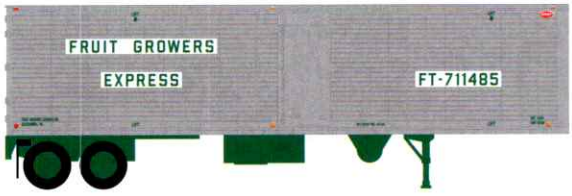
Trainworx, Inc. – 52'6" Gondola
Ontario Northland (6 Road Numbers)
Item #s 25263-(01-06) Price: $28.95 each

Trainworx, Inc. – Piggyback Trailer
Northern Pacific Railway (3 Road Numbers)
Item #s 40233-(07-09) Price: $24.95 each

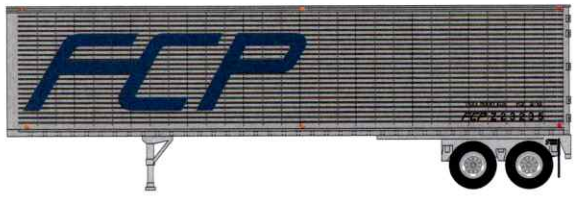
Trainworx, Inc. – Piggyback Trailer
Northern Pacific Railway (3 Road Numbers)
Item #s 40233-(10-12) Price: $24.95 each

Trainworx, Inc. – Piggyback Trailer
Northern Pacific Railway (unnumbered)
Item #s 40233-13 Price: $24.95 each

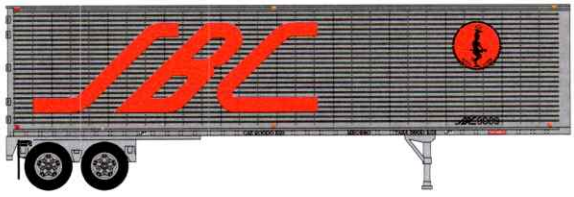
Trainworx, Inc. – Piggyback Trailer
Kansas City Southern Lines (3 Road Numbers)
Item #s 40268-(01-03) Price: $24.95 each



Trainworx, Inc. – Piggyback Trailer
Fruit Growers Express (3 Road Numbers)
Item #s 40269-(01-03) Price: $24.95 each



Trainworx, Inc. – Piggyback Trailer
FCP (3 Road Numbers)
Item #s 40278-(01-03) Price: $24.95 each



Trainworx, Inc. – Piggyback Trailer
SBC (3 Road Numbers) Item #s 40279-(01-03) Price: $24.95 each

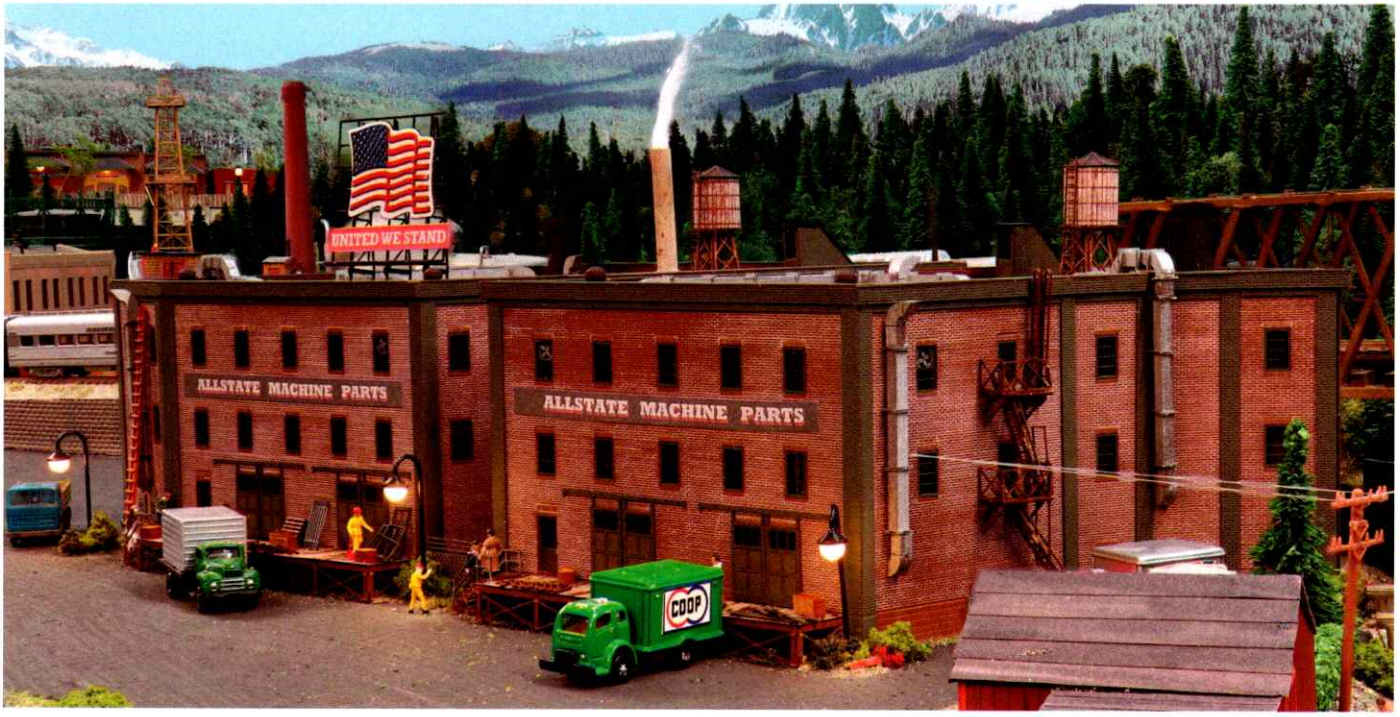
Trainworx, Inc. – Piggyback Trailer
Decorated unlettered van Item #s 40299-1 Price: $24.95 each

Trainworx, Inc.
PO Box 127, Delta, CO 81416 www.train-worx.com

Review: Allstate Machine Parts Kit

ITLA Scale Models

by **Dennis Murphy**



ITLA Scale Models
Phone: *(404) 462-4463*
Email: *ImagineThatLaserArt@gmail.com*
Web: *www.ImagineThatLaserArt.com*

Well, there you have it. Even during these dark times, there are fun new things happening. And I, for one, sorely need a little sunshine in my life right now. But, as usual, I'm getting ahead of myself. Allow me to back up and fill this story out a bit.

First off, you should know that I just love free stuff. All right, nothing is ever actually free, but it is still fun. A case in point: Writing these magazine articles seems to give me a bit of a name in the model railroad industry. And with a name comes free stuff that different manufacturing companies want written up. It's a wonderful win-win situation if you ask me.

So, when the nice folks at ITLA Scale Models (A Canadian Company) developed an interesting new laser-cut modular kit, they sent me two to play with. This new kit will be offered in multiple scales, but the pre-production ones I received were N scale. I have, in the past, built a number of their kits and found they offer only first-rate products.

ITLA Scale Models has developed a whole pile of different mini-kits to create different footprints. Some of you might remember the good folks at Walthers offer a modular system made of plastic wall segments somewhat like the ITLA concept. The plastic is nice, but it is certainly not the same as laser-cut wood.

With these mini-kits from ITLA, you can literally build any structure possible. If you have a particular space that needs to be filled, within the limits of the standard modules, you can achieve anything you might wish for. In fact, for this project, I wanted to see just how far I could actually stretch this idea of flexibility, and if you have no particular idea in mind, they also offer a number of suggested building footprints you might like.

The materials used to manufacture these mini-kits are an interesting story all on their own. So where do you find the stuff to produce these high-quality laser-cut kits? Come to find out, you don't find it at your friendly local hobby shop! Where we need to go is the kitchen... Well, actually the kitchen cabinet shop!

Most of the parts are made of a product called MDF. This is a high-density wood product that is used in the construction of kitchen cabinets. It's extremely strong, lightweight, very consistent in finish, and it takes the laser cutting perfectly. (It also takes paint, stains and weathering powders wonderfully.) The parts are extremely precise and correct every time. And the other, much thinner product is, if I might quote: "Laser Board" is a resin impregnated backer for laminating substrates in the cabinet making industry ... i.e. Formica counter tops." Very cool and very strong stuff.

And a fun unexpected aspect of this sample structure project is the ITLA folks directed me to use, of all things, rattle can paint from the hardware store! I haven't ever tried that on any of my fine scale models. Sure, I've used it on lots of other stuff, but not a fine scale model. So I contacted the ITLA folks about exactly what brand/

color they might suggest, and off to my friendly local hardware store I went.

I was actually concerned about the covering quality versus the "glob" factor of this paint. Will it fill in all the burnt-in texture that is included in these fine parts? Just to be safe, I practiced on a bit of scrap. My findings were: 1) Keep the can way away from the parts you are spraying and slowly work your way in closer. (Paint is cheap) And 2) Multiple, very light coats work the best. It all boils down to what you want your final model to look like.

One interesting challenge was how to paint all the parts at the same time without removing anything from the backing. These parts come all mixed up on the backing, so I had to get creative with masking things off. The masking process took more time than all of the actual painting! And what did I find when all the masking tape was removed? All I can say is... WOW! Came out perfectly. I would have never expected that. Will I use rattle can paints again? Probably... Only time will tell.

After the paint dried, it was back to my hobby room to start construction of this beauty. I found I needed to learn how to take the parts out of the backing without damaging anything. The parts are "mostly" free from the laser cutting, but there are still connection points. A word of caution: Make sure to be careful when removing the tape, as I had a couple of the parts come loose from the backing. I almost lost a railing, as I didn't notice it was gone right away.

To get the most out of this project, I wanted the brick to look as real as possible. The best way to achieve that is to use my old friend "Robert's Brick Mortar". This is a liquid product you brush on and let dry. Once dry, take a damp washcloth and remove as much of the product as you please. Take less off to give a look of heavy mortar or take more off if you want it lighter. Very easy, and works great.

As I mentioned earlier, with these wall modules, you can make them pretty much any shape you like. And you don't even need to stick to the old 90-degree corners or make them square. You can literally make any shape and footprint you might ever dream of. To have some fun, I went a bit wild with the shape of these buildings so they would fit the space I had available. And I can tell you that none of my modeling buddies has the exact same structure on their layouts.

This might be a good time to talk about adhesives. For this type of project, I mostly use good old-fashioned white Elmer's household glue. It gives you plenty of time to work with it (unlike CA glue), is plenty strong, dries (mostly) clear, and my favorite; It's cheap, but remember that with any adhesive, less is more! Use the very least amount of glue to keep parts together, and no more.

As you complete the individual wall sections, it's time to start gluing them together. The way the parts are cut out, its darn near impossible to mess them up. Once the glue is dry, there is trim that is included. I did find I wanted to add backing to the wall sections, just to make sure they were strong enough. Of course, you want to make sure you can't see any of this bracing handiwork from the outside!

Next comes the roof! ITLA has included a number of pre-cut, stock roof sections, but there was nothing even remotely the correct shape for how I built these structures. So, I got out my good old pencil (very sharp), some clean heavy cardboard and my heavyweight sheers. I then needed to build some interior roof supports, as I was concerned that the roof might end up sagging without them. Eazy-Peezy.

Once I had all the parts together, it was time to add a bit of weathering and color. A bit of dry-brushing here, and some dry weathering powders there, and just like that it was finished. Of course, what your model ends up looking like is entirely up to you, but personally, I like a comfortable, lived in look. I do not strive for all used up and worn out. Once again, personal preference. Oh yes, I also added a crossover walkway between the two structures. You need to move the people and supplies around, you know!

Well, there you have it! Wow, what a project these structures ended up being, and did I ever have fun building them. At the start, it looked to be more than I should have gotten myself into, but as it turned out, if you take your time, it's actually downright easy. I was amazed that you can get such a good finish with "rattle can" spray paint. I love it when a plan comes together. I guess you can, after all, "teach an old dog new tricks."

All told, including painting, glue drying, and messing about with making the roof sections, I would say it took me about 12 fun-filled hours to complete. If I were to rate the difficulty of construction of this kit, I would place it at the high end of intermediate. This kit is plenty difficult for the high-end modeler to feel challenged, and a newer modeler who has built a number of other laser-cut wood kits, could "step up" their game with this offering.

What will be next? I still have some room in my ever expanding "train world" to fit more stuff. Do you have any suggestions?

Birth of a Model Railroad

Part 13 Engine Facilities and Other Yard Buildings in Aberdeen

by **Walt Huston**

Photo 1: This is an overall view of the Aberdeen Engine Servicing Facilities and the Caboose Servicing area.

In Part 10, I told you about the removal and rebuilding of the Aberdeen Yard. Now it's time to take a look at the additional "facilities" that will support engine servicing and other operational activities in Aberdeen. First, however, a little background is in order. Aberdeen is the western terminus of the Aberdeen, Tacoma & Spanaway Forrest Railroad. As such, it must support all manner of railroad operations. This is where locomotives and cabooses will be serviced and repaired when necessary (***Photo 2***). That requires an engine service facility as in Part 10, but also requires a locomotive heavy repair shop, sanding facilities (sand house, sanding tower, caboose stores facility, refueling storage tanks (refueling will take place in the service facility), parts storage, lubricant storage, and additional yard buildings/facilities (***Photo 3***). I built a Micro Engineering kit in slightly modified form to use as the locomotive heavy repair facility. It sits at the east end of the yard, directly in line with the engine service facility. This is a "modern" building with a concrete floor and floor pits for getting under the locomotives. While I didn't actually model the pits in this building, I did paint the "concrete" between the rails flat black to make it look as though there are pits there. Etched brass walkways have

Photo 2: The Locomotive Service and Repair Facilities.

Photo 3: Another overall shot of the Aberdeen facilities.

Photo 4: Close up of the Aberdeen Locomotive Service Facility.

Photo 5: First of the Atlas Towers.

been installed within the building for workers to use when working on the upper half of locomotives (***Photo 4***). These were built using parts from several kits by Gold Medal Models (*www.goldmm.com*). These are the same type of walkways I used on the Box Canyon Bridge and elsewhere on the layout. It is quite difficult to see inside the heavy repair facility, so I did not attempt to install a crane. If this were a more visible structure, a crane would be inside and the pits would have been built. As it is, the pits in the engine service facility will have to do. I installed lights in the heavy repair facility using LEDs I purchased from Ngineering (*www.ngineering.com*). I placed a series of cross braces in the facility so the lights would cast shadows on the floor and on any locomotives that are within. This adds

Photo 6: The Caboose Store Combine.

Photo 7: The Grain Facility will be built on these footprints.

to the appearance that there is more going on overhead than there is.

I also installed a yard tower at the entrance to the Aberdeen Yard. This tower was first installed on the Onyx Division and has been transplanted here (***Photo 5***). It is an Atlas kit and has lights installed within. Again, the LED lights are from Ngineering. The power and light poles are reused from the Onyx as well. Many more power poles will be installed later when the chances of catching on them is significantly reduced (when scenery behind them is completed). One day, when I was feeling especially lazy, I took the trucks off a "shortie" combine that I had kitbashed in the '70s, built some cribbing with some wood ties, and declared this as a "stores" building for the Aberdeen yard (***Photo 6***). I have not decided on its final resting place, but it was a fun distraction. I still have to build some steps and a loading platform for it. Future plans call for the addition of a few of the DeLuxe Innovations buildings from kits with details added, and several other buildings. At the west end of the yard is a series of tracks that will service some warehouses and a grain facility. I plan to use the Sunrise Feed Mill kit from Walthers Cornerstone for a portion of the grain scene, but not exactly as designed (***Photo 7***). Fortunately, that should not be a problem with this kit. After that, the city of Aberdeen will be built. The city will take up a fairly large area west of the yard, as well as the industrial area up and behind the yard.

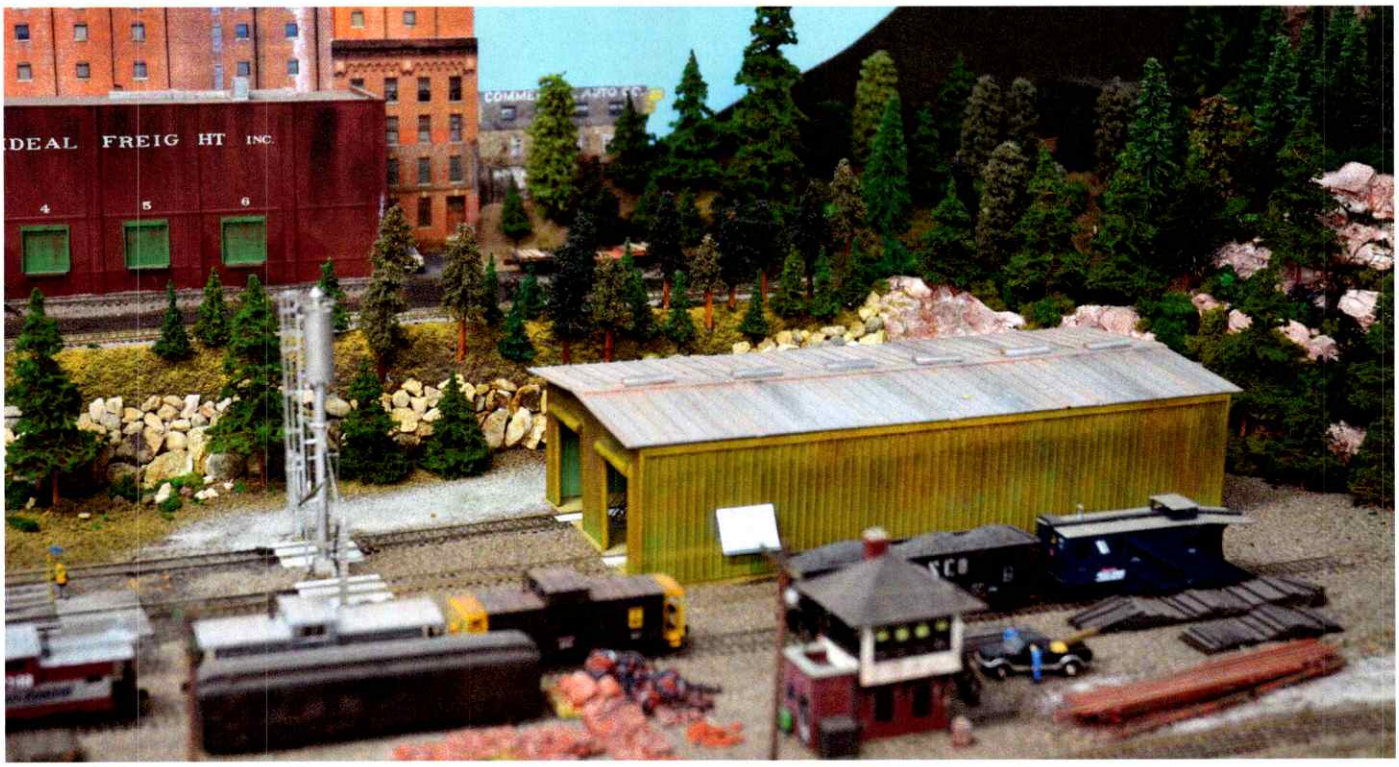


Photo 8: A series of photos showing the entirety of Aberdeen.

The real Aberdeen is a hilly city, so that helps with the feeling that is provided by my elevation changes (***Photo 8***).

All of this work has been and will be fun and result in the appearance of a "finished" and working main yard for the railroad. What the future has in store is vast, however, additional scenes are a long way off, so this will be the last article in this series. I sincerely hope that you have enjoyed what has been written and that you will begin or continue your journey toward an enjoyable layout of your own. If you ever get to the Tacoma, WA area, be sure to look me up. If I'm home, I am available for you to visit between 10 a.m. and 6 p.m. I'll let you run a train (bring your family, too. Kids 5 and over can run a train, too).

A Study In Nature

Part 8 (Bridge Embankments)

by **Dennis Murphy**

Photo 1: Looking around at the railroad bridges in my area, I found there is always vegetation. This can be from a well-cared slope to a mess of growth. Since we are trying to create our very own slice of real life, you need to make your bridge embankments look finished.

Well, here we go again. I thought I had come up with everything I could think of for this articles series, but people kept suggesting more stuff to cover. I guess that means somebody actually reads these! So what's a guy to do, but offer a few more topics?

For part #8, I have stepped out of the mold a bit, and I hope it helps your modelling world end up looking a bit more "real." As we have done in the past, we need to take a little field trip out into the real world. This time, it's a bit farther afield than just our back yard. In fact, it's into the "family ride" to have a look at some of the railroad bridges in my area; not exactly will we be looking at the bridges, but rather, focusing on the embankments the bridges connect to.

In my circle of modelling buddies, I find they do an amazing job of building their bridges, but not nearly as well with how they install them. It's almost like: "Great bridge build. I'm done!" Hold on a moment, as there is a lot more to consider when placing the bridge on your layout than just adding the track.

With that in mind, let's get back to our field trip. I live in an area where I have railroad tracks running all different directions. So finding some "subject bridges" was an easy task. And moving from one bridge to another, the first thing that struck me was how totally different one "setting" was to the next bridge. Every scene was totally different, even if the actual bridge design was the same. Who would have thought about that? I certainly have never taken that into consideration when installing my bridges. (How about you?)

After a few bridge inspections, I had to stop and ask myself: "What makes each bridge so distinct"? As I suggested in those past articles, you have to do more than just look at nature. You really have to see what is being shown to you. It takes practice, patience, and a bit of what I like to call, inner quiet, to really see the scene.

So what did I start to see at these bridges? First off, usually, but not always, there is no order to the vegetation. Most of the time, once the bridge is installed, the company allows nature full control from there. You can expect almost anything growing in, under, and next to a bridge. You might go as far as to say, "anything goes." There are

Photo 2: There are many different ways you can control the erosion on these embankments and keep the trackage in place. So when you finish your bridges, be sure to make all of them different from one to another.

Photo 3: What about things a bit "different." Can you make out what you are looking at in this photo? It is a set of old bridge supports from... Let's just say "sometime from the past." We really must be ever attentive to including a time-line for our train world. Your layout or scene may have been built just yesterday, but we don't want it to look that way.

some things to take into consideration, like which side gets more sunshine and which side gets more rain. That kind of stuff.

From that point, have a look around and see what your basic "theme" of vegetation is in the surrounding area. Your bridge embankments don't need to be exactly the same as the surroundings, but at least in the same "family" as the rest of the area. And make really certain there is NO same-pattern from side to side. The very worst thing you can do is make a carbon copy of the same vegetation on both sides! You can pick that out from a mile away (scale mile; not a real mile).

Another thing I noticed is the wide range of erosion control measures that are used. They use large timbers sometimes, and brick works at other times, and even sometimes large rocks. Sometimes they plant vegetation, and other times they don't. The one constant is, you will never see exactly the same bridge scene twice, even if the bridge itself is the same as others.

OK, so I had a bit of an eye-opener on our little field trip. Let's head back to my layout room to compare how I have done in the past with my bridge installations. (I have a bunch of bridges.) And what I found was a "mixed bag" you might say. Some seem to look fairly life-like, and others, not so much so.

And the ones that were done better

Photo 4: I have a bunch of bridges on my layout, and here are a few to have a look at how they were finished. I diligently try to make every one of these embankments a bit different. What do you think? Do they work?

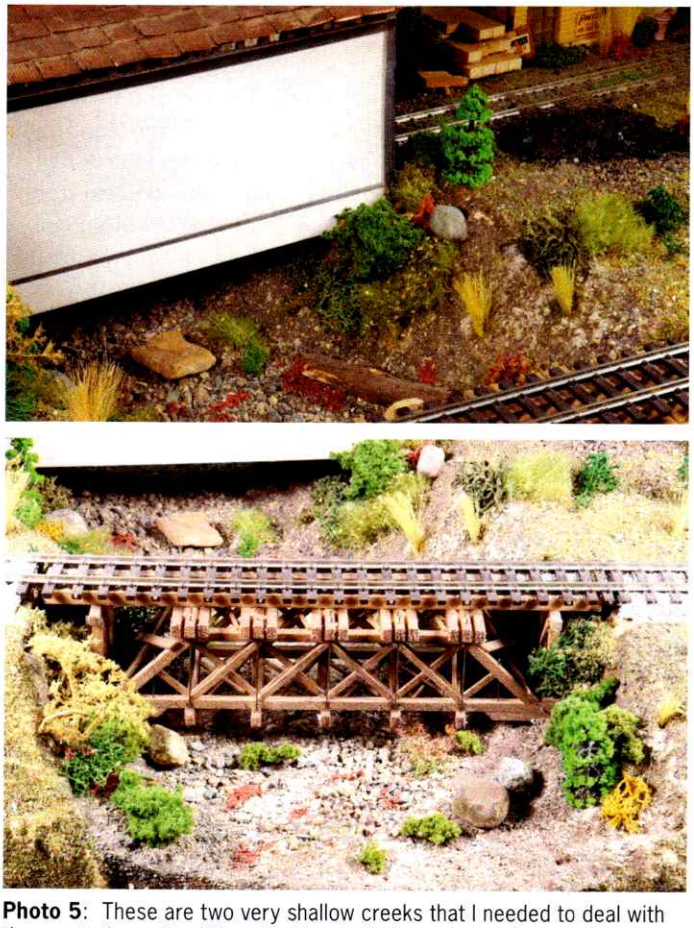


Photo 5: These are two very shallow creeks that I needed to deal with the vegetation quite differently than in the last photos. Personally, I find it way easier to work with a deep gorge, rather than shallow ones.

Photo 6: Finishing off your bridge embankment does not need to be fancy. Just a bit of grass here, and a bit of brush there. Just be sure to make the two sides different, and not exactly the same. If you do make both sides exactly the same, everyone will see it right away.

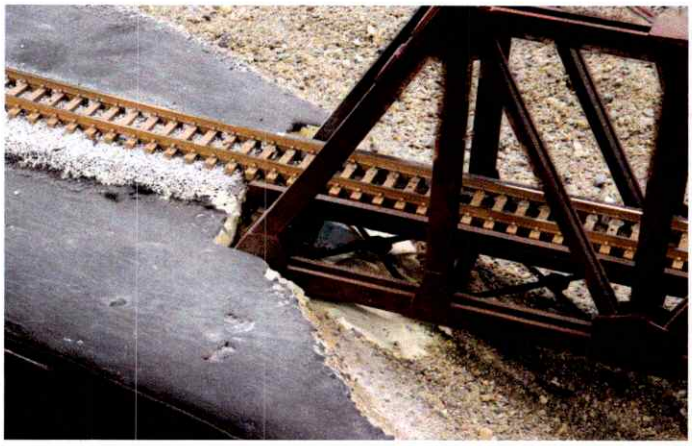


Photo 7: Oh NO! In developing this little article, I found that there are a number of areas on my layout that, well, I'm not very proud of. In fact, the more I looked really closely around the layout, the more problem areas I came across. How much less could I have done on this scene? I really missed this one entirely! I guess I have some work to do.

Photo 8: What? Where did all of these problems areas come from? Once I really started looking around, I found all kinds of stuff that wasn't finished properly. And here I thought I was approaching a point that I would run out of projects on my layout. Well, I guess I don't have to worry about that every happening!

Photo 9: Disgusting! This is utterly not up to my normal modeling expectations. Bad ballasting, no transition, and you can even see the sub-roadbed! And this is on my layout? As I got more and more into this article, the more embarrassed I became. To think I have had modelling buddies actually over here that must have seen these deficiencies. Ohhhh... I best set aside some time to take care of this.

are "good enough" for now, and some of the other ones I'm not happy with at all. In fact, the more closely I looked at my bridge installations, the more embarrassed I became. Have a look at the photos that are included here, and think about when your modelling buddies come over and run trains with you. They see everything!

Obviously, I have some serious work to get completed before I have the guys over again. And I can only hope they have as short a memory as I do. So there you have it, you need to have a close look at the way you have finished off your bridges. I can only hope these thoughts will help you on your quest of making your train world as life-like as it can be.

What will be the subject next time for the "A Study In Nature" series? Only time will tell, but please keep sending in what you find interesting. And keep in touch!

IN PURSUIT OF WOW

PART 10 – STACKED LUMBER LOADS, ALL EXPOSED FOR THE WORLD TO SEE.

by **Dennis Machlica**

Photo 1: There would be nothing like a train with ten or 15 lumber loads like these running on your layout.

Once upon a time, in a world not so long ago, lumber used to travel on trains all across the country, exposed to the weather and all the world to see (***Photos 1 & 2***).

During this era, much lumber was carried on flat cars or bulkhead flats; usually lower quality wood where the effects of the weather were of lesser importance.

Prior to the early stage of bulk material handling, premium quality lumber was carried in box cars, individually loaded and stacked by hand. I remember my older brother Fran, coming home from work at a summer job in the 1960s, complaining about his chore that day. He was tasked with having to single handedly unload an entire box car of lumber by himself. Talk about sore muscles at the end of a workday!

For decades after, double door boxcars aided in the hauling of lumber stacks loaded by forklifts. But even that was slow and cumbersome because of the maneuverability of forklifts carrying wide lengths of teetering lumber and having to make 90 degree turns to get into the far ends of the cars. But that was an era of vast railroad fleets of such cars, and even lumber shippers having hundreds of their own.

For a time in the mid to late 20th century, Thrall developed what was to be a great innovation to solve the material handling of lumber products — the Thrall All-Door Box Car. These interesting cars, produced in N scale by Red Caboose for a while, featured four extra-wide plug doors covering the entire length of the car. This car could have two doors opened simultaneously, on the left, on the right, or in the center, exposing half of the car's interior all at once. This allowed forklifts to simply pull right up to the side of a car and drop its load, then back away to retrieve another stack.

These were used for a decade or more, but succumbed to mechanical issues caused by the freight car bodies twisting and turning under stress, resulting in a high failure rate of the sliding doors. The thinking was that

Photo 2: First we'll start with a load of banded lumber stacks.

INTERMOUNTAIN • 60' FLAT
MICRO-TRAINS • BULKHEAD FLAT
MICRO-TRAINS • 50' FLAT
RED CABOOSE • CENTERBEAM
MICRO-TRAINS • 60'8" CENTERBEAM
WALTHERS / ATLAS • BULKHEAD FLAT

Photo 3: Jigs built to each flat car size makes easy work of keeping our stacks in alignment while glueing.

the reinforced roof of those prototype cars (that had no side wall support at all) would be able to handle the stress of the cars. But it was not to be.

What did come out of it though, was yet another great innovation. In the next development, they discarded the idea of doors completely and replaced the inadequate roof structure with a structural "wall" down the center of the car. Thus was born the Center Beam Flat Car.

While the loads were once again exposed to the weather, the material handling was vastly sped up and improved, and the structural strength of the center beam cars surpassed ordinary flat cars. Eventually, the plastics and packaging industries stepped up to the plate and developed the ability to shrink wrap lumber loads and other building materials at a cost reasonable enough to make such "packaged" loads the industry standard we see today.

But today, we are focusing on modeling that interesting era of the mid-to-late 20th century, an era of more interesting and varied trains (that even had cabooses... remember those?)

So let's start building some jigs.

Photo 3 shows a set of six jigs I developed to aid in assembling our stacked lumber loads. These are simple wood assemblies sized to a variety of cars in my collection cut on a table saw. You can also make yourself a set out of styrene sheet if you don't have woodworking tools available. If you're only interested in modeling a car or two, the jigs are not really necessary. But if your layout is focusing on or featuring a major lumber industry, the jigs will help in building a larger fleet of cars.

Next, we'll create our stacks of lumber.

To scribe the boards in our stacks, we need a good quality saw, with sharp teeth. I used a course toothed razor saw out of my tool collection, as seen in ***Photo 4***. The teeth need to be wide enough apart to scribe believable lines in our basswood sticks. Other saws might be usable, but be sure to pick one with good spacing of teeth.

The basswood sticks I used are $\frac{1}{8}" \times \frac{5}{16}"$.

Carefully dragging the saw down the length of the stick, on all four sides, is what we want to achieve (***Photo 5***).

Building yet another jig?

However, the above is rather difficult to achieve (but not impossible). While I built a couple of cars using this technique back in the 80s, for this article I built a jig to hold the wood strips in place and guide my saw blade as I did the scribing (***Photos 6 & 7***). Pressing the saw against the spine on the left

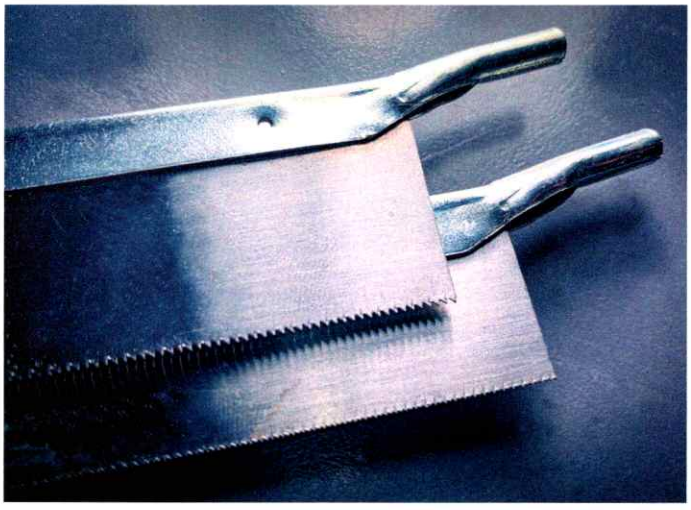


Photo 4: A course tooth razor saw will be handy to scribe the boards in our lumber stacks: A standard toothed saw is shown for comparison, but too fine for our purposes here.

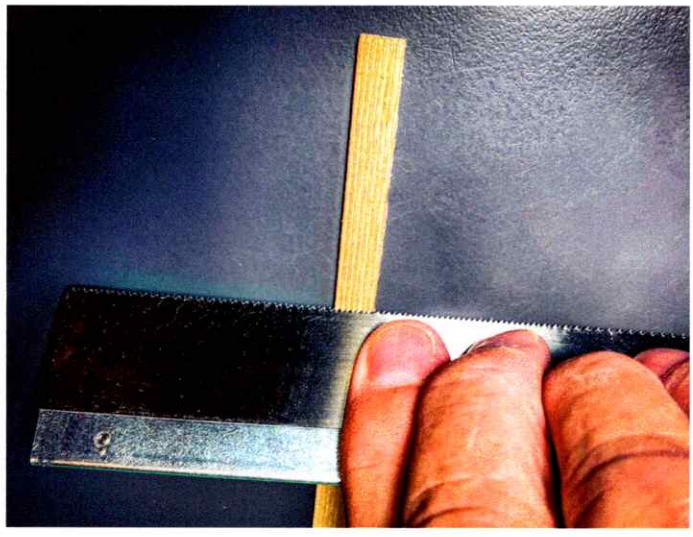


Photo 5: Dragging the saw down the length of our basswood sticks creates the grooves we're looking for.

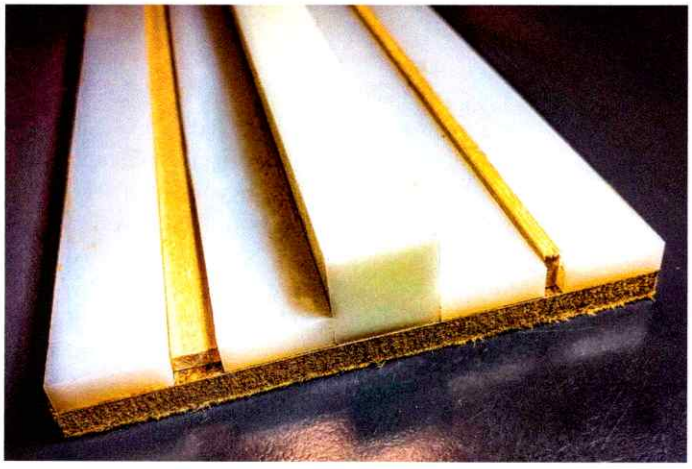


Photo 6: Building a jig for scribing our sticks will hold our basswood in place and make it easier to scribe straight lines.

Photo 7: Dragging our razor saw down the jiig while pressing it against the center spine keeps our lines straight.

Photo 8: Now we have a stack of scribed sticks to cut into lumber stacks.

Photo 9: Lumber stacks in different lengths ready to go.

(for right handed people) keeps the saw from wandering, which is the primary purpose of building a jig such as this.

To scribe the other dimension, rotate the jig 180°, so the spine is again on the left.

The jig was made with Ultra High Molecular Weight plastic, commonly called UHMW Plastic, using ¼" and ¾" material. The pieces were cut on a table saw (required) and glued to a piece of Masonite using contact cement. The contact cement is important here, as the UHMW is not really glueable – its very slippery nature is why it is used as the

Photo 10: Staining the lumber stacks with a tint of pale orange is the first step in adding realism to the load.

Photo 11: Here we are selecting the various lengths of lumber to build the load.

material of choice for woodworking fences and sliding jigs on table saws and router tables.

UHMW Plastic is available at Peachtree Woodworking Supply (*ptreeusa.com*) and *www.ptreeusa.com/ttrack_uhmw.html* for the actual catalog page. Many other woodworking suppliers as well as Amazon, carry the material, but the link above will take you to a catalog page that is easy for newbies to order from without having to feel stupid or ask questions (we like that).

The material is rather pricey. So as long as you have access to a table saw, you can adequately build a similar one with just Masonite and household lumber. The primary benefit of using UHMW material is due to its slippery nature... the material is way too dense for the saw blade to dig in or grab as the blade is dragged along and pressed against the spine.

The jig was built with spaces for the basswood strips to drop into, using both height and width dimensions. A stop at the bottom cavity keeps the wood from sliding down and on to the floor. The cavity for the width of the basswood is deeper than the wood itself, so a narrow strip of Evergreen Styrene was used to lift the basswood slightly above the top surface of the jig.

Let's get back to our lumber

When we are done scribing our basswood strips, we'll have a whole bunch of wood to cut into lumber stacks (***Photo 8***).

The next step is to cut our lumber stacks in prototypical lengths of 8', 10', 12', 16', and perhaps 20' or 24'. I shied away from 8' and 10' sizes, as it makes a load too complicated if there are too many pieces to assemble. The car highlighted in this article has three pieces in each row, and that is complicated enough (***Photo 9***)!

Now an important step to the effect of realism, in my opinion, is to properly color the lumber. I used a wash of Hunterline Weathering Mix in Pumpkin Orange, diluted with Isopropyl Alcohol, probably in a 50/50 ratio (***Photo 10***). I have successfully used thinned Reefer Orange Floquil Enamel (no longer available) in the past. If you use paint rather than an alcohol dye, be sure to use a solvent-based paint over a water-based pigment for better results. Just looking at the stained wood makes it clear why a painted casting can't even come close to the sense of realism shown here.

After our stained lumber is dry, we'll select the sizes of stacks we want to use and place them into our freight car jig to confirm everything is correct and they will fit properly (***Photo 11***).

When building loads like these, I like to set out several rows of wood in advance, so we don't have to go back and forth to our pile searching for

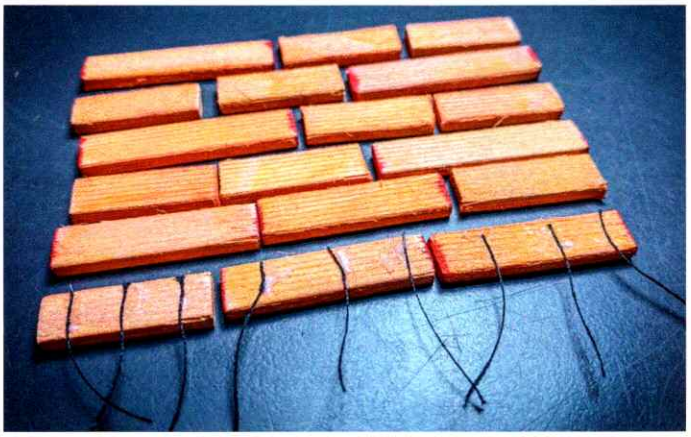


Photo 12: Laying out several rows of wood for our stacks in advance helps keep us from getting confused.

Photo 13: Our pieces now have the banding glued to the bottom of each bundle.

pieces. Remember that it is best, and prototypical, to always stagger the stacks so no two stacks line up with each other (***Photo 12***). This image also shows the first pieces of black banding glued to what will become the bottom of each stack.

I have found that the step of gluing string "banding" to all the pieces of a car's load all at once is faster and less tedious than going back and forth between different sequences in the process. Once you get the first few stacks done, you sort of fall into a "groove," a rhythm, that becomes faster and easier as you go (***Photo 13***).

As we continue, the stickers come next, that is, the wood risers that allow forklifts to grab the bottoms of each stack when unloading. These were precut from HO 2"×3" stripwood and glued to the top of each stack. As I proceeded in building this load, I came to realize it would be better and less confusing to add the stickers to the bottom of each piece, adjacent to the string "banding" (***Photo 14***).

Photo 14: Here we are adding the spacer sticks that will be separating each bundle.

Photo 15 shows the first row of lumber stacks set in place on the jig, ready for row two to be glued on top of it.

Glue is applied to the top of the first row as blocks are carefully placed on top. Remember again to place the blocks in a staggered formation, especially as this is how the lumber stacks

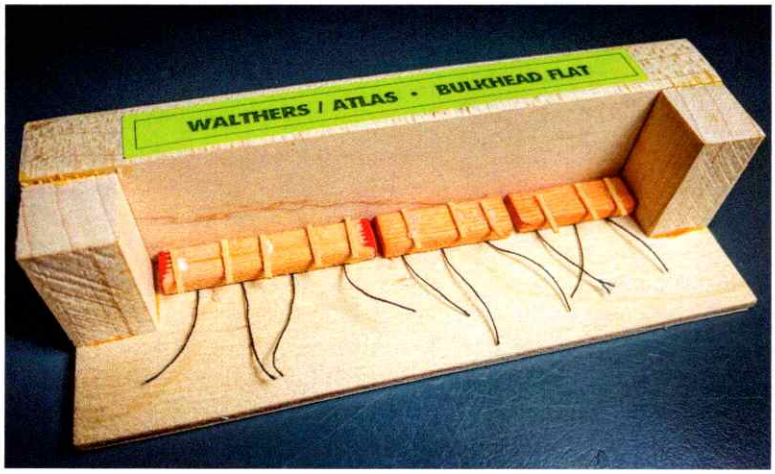


Photo 15: Here we see the first row of bundles in the jig prior to glueing the next row on top of them.

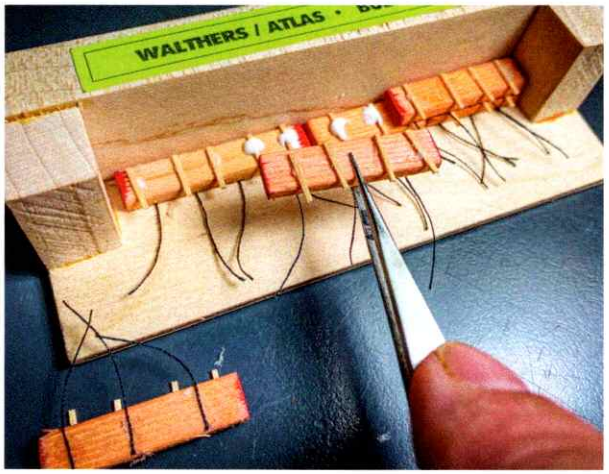


Photo 16: Here we are adding the second row to the stack, carefullly glueing the pieces to the row below.

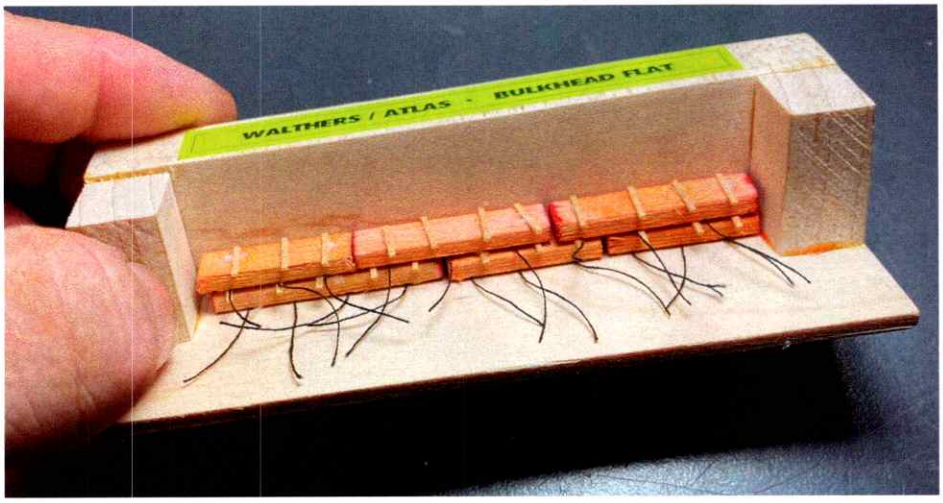


Photo 17: After completing the first glue-up, it is best to let the pieces dry completely before proceeding.

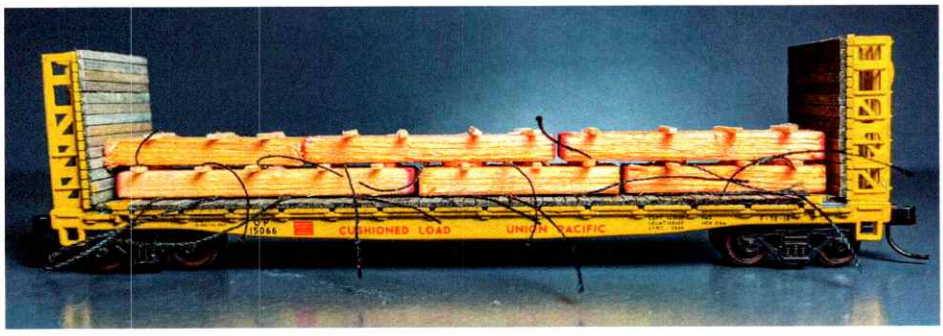


Photo 18: Once completely dry, I like to test fit the stack on the car that will receive the load.

are glued together (***Photo 16***).

After gluing the first two rows together, press the pieces against the back wall of the jig to confirm that the stack is straight, then set the jig aside to let the glue dry properly (***Photo 17***).

After the load has properly dried, I like to examine it carefully, and test fit it on the car that will receive it (I'm impatient, I just can't help it!) (***Photo 18***).

At this time, although not shown, the banding at the bottom of row 1 gets lifted up and wrapped over the top of row two. I glued them in place with a tiny dab of glue on the top. Don't worry, it won't be seen, since row 3 will lay over it. When the third row is glued on top, again using the jig, the banding at the bottom of row two will be lifted up and glued to the top of row 3. Repeat again when row 4 is added. But with row 4, the banding at the bottom of row 3 will be lifted up and over the top of row 4 and glued down the backside of the stack, so as not to be seen.

Photo 19 shows two stacks, each four rows high, ready to be glued back-to-back. But before we do so,

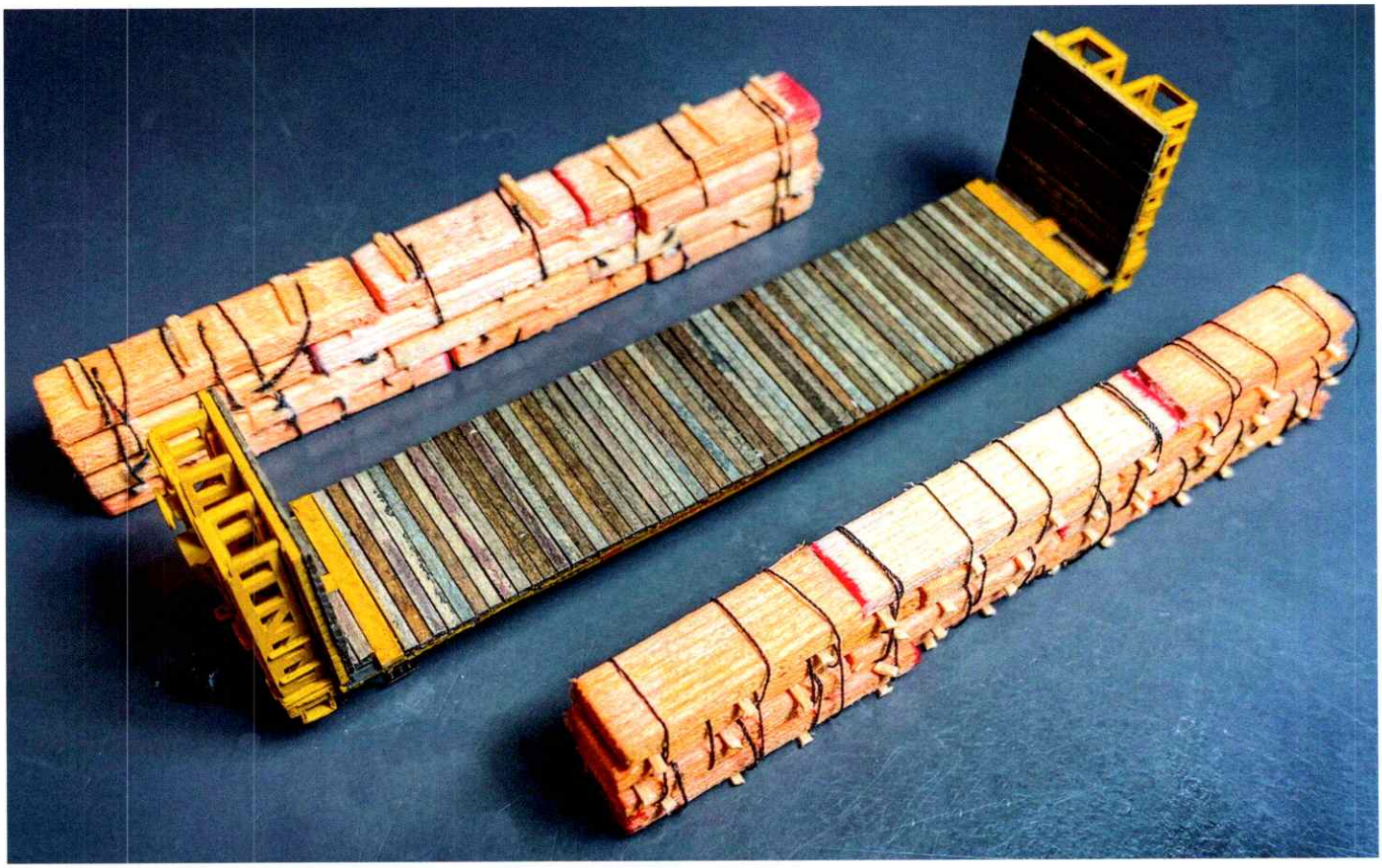


Photo 19 : Once we have built two similar stacks, it is time to glue them together into one assembly.

Photo 20: I used the same HO scale 2"×3" stripwood for both the stickers underneath each stack, as well as for stickers virtically dividing the left and right stacks from each other.

Photo 21: Here the vertical stickers are being glued to the hidden side of one of the stacks.

we will add stickers rising vertically between the stacks, using the same HO 2"×3" stripwood we used for the risers (***Photo 20***).

We see the stickers glued in place on one side of the load in ***Photo 21***. ***Photo 22*** reveals a generous amount of glue laid down to attach the left and right sides of the load together. We surely don't want pieces of the load falling apart during use, so this is the time the glue grabs both sides adequately.

Once the two sides are joined to each other, place the completed load in its jig and press it into the jig wall, being sure everything is straight and flat. Now is the time to make changes if anything is not quite as it is supposed to be (***Photo 23***).

Once given enough time to dry completely (and I mean completely), it is time to examine our work (***Photo 24***), and then glue it in place in its intended car. Just a few light drops of adhesive are called for here (***Photo 25***). If this load were being built for a flat car, the ends of the lumber stacks would be painted red, as the bottom rows indicate in ***Photo 24***. But with the ends of the load being unseen on this bulkhead flat, it is not necessary to complete in this execution.

Photo 22: Here the two sides of the finished stack are ready to be glued together.

And now, for something different: Wood Beams

Another interesting load often seen in historical railroad photos are what appear to be rather large wood beams.

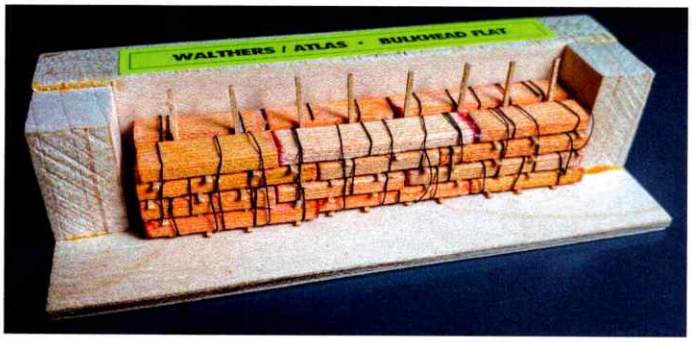


Photo 23: The jig helps confirm everything is in the proper alignment while glueing.

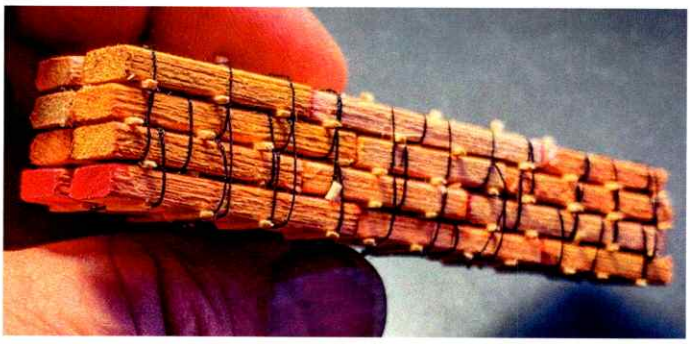


Photo 24: Examining the completed load after the glue has completely dried.

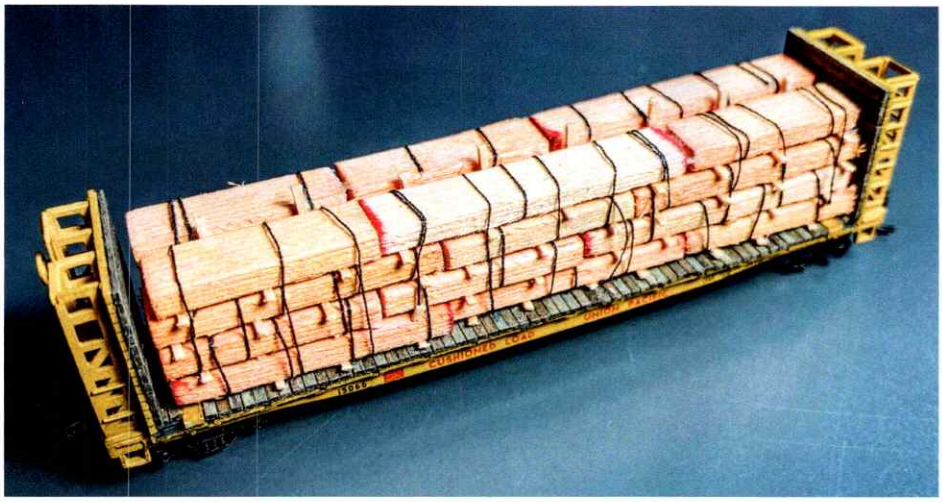


Photo 25: After trimming the vertical stickers to slightly above the load height, the load can now be carefully glued in place to our flat car.

Often these are seen in random lengths, so as not to waste lumber on these kinds of sizes (*Photo 26*).

What we will do here is build the load with individual pieces of strip wood, wrapped around a solid core of wood. *Photo 27* shows a few cores and a bunch of HO Scale 4"×6" lengths of strip wood for wrapping.

The width of the load was determined to be nine boards wide, which was the maximum width of the flat car. Using one board width on each side of the solid core to enclose the block, the piece needed to be no more than seven boards wide, or slightly under. My wood blocks measured out to be something around 0.528 inches or so. But this was not measured mathematically... it was achieved by hit-or-miss cutting of hardwood using a MicroLux hobby-sized Table Saw from Micro Mark and measuring them against the sticks of strip wood themselves. No math here! (*Photo 28*). You can see one of my blocks sitting on nine pieces of strip wood. I decided to run full lengths of strip wood under the entire bottom of the block for strength and alignment purposes.

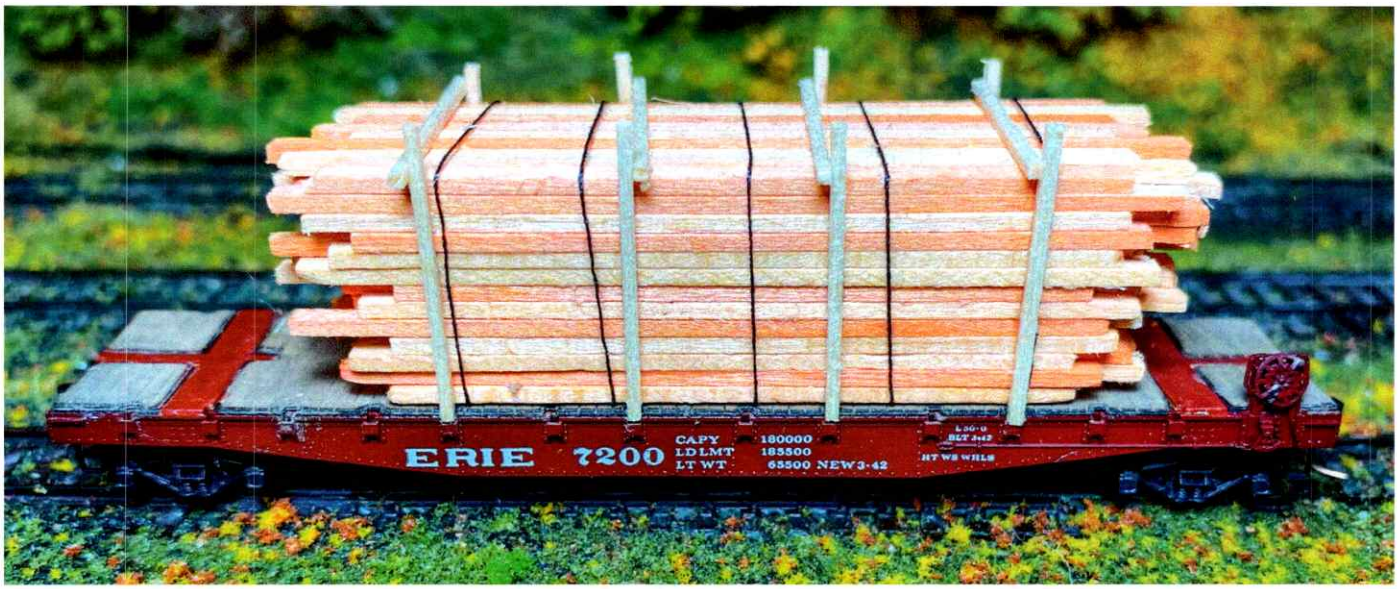


Photo 26: We'll follow with a load of random length wood beams.

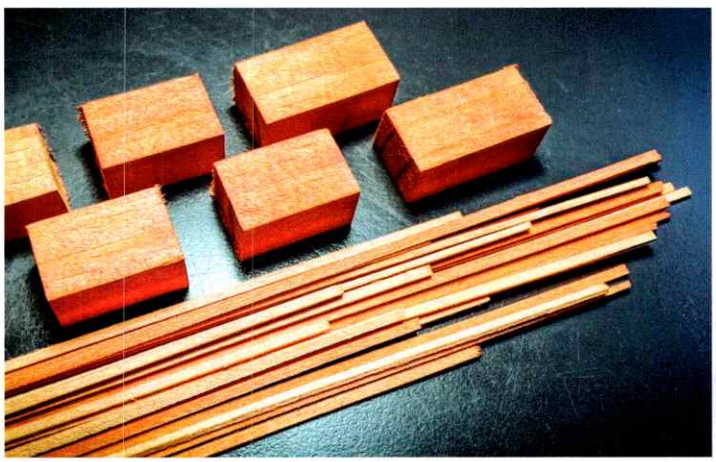


Photo 27: Stripwod and a solid core stand at the ready for the next load.

Photo 28: A solid core is glued over a bunch of stripwood sticks.

For those who may not have a hobby saw available, you can probably cut solid blocks of Basswood or Balsa by hand using a Razor Saw and be precise enough.

Photo 29 shows how I built the ends of the stacked layers. Seven pieces of stained strip wood were laid flat, with the ends staggered to my liking. A piece of 0.25" paper-backed double-sided tape was laid across the strips and burnished down.

After carefully cutting off the over-hanging tape, the assembly of strips were taken to my Northwest Shortline Mini Chopper and cut just behind the paper-covered tape (***Photo 30***).

The now completed end piece (seven boards wide) was placed over the end of the first layer of boards (nine boards wide, because the bottom layer also includes the first layer of the full-length side boards). The end piece should align with the width of the solid wood core. The paper covering was removed from the top of layer one prior to placement, so the double-sided tape instantly glues together layers one and two. Burnishing down carefully is called for here (***Photo 31***).

A touch of glue is placed against the end of the wood block and the just-added layer of lumber for permanence (***Photo 32***).

After a similar piece is added to the opposite end, side boards can be glued to the side of the lumber stack using regular wood glue (***Photo 33***).

Keep gluing layered end pieces and side boards for each layer together until you reach the top. Cover the top of the stack with random lengths of full sized boards, and you're done! (***Photo 34***).

Wrap the entire stack with banding and carefully glue to the top of your flat car (***Photo 35***).

And finally, side stakes were added to the load, and the car awaits its pick up by the next train out (***Photo 36***).

So have fun building a few of these loads for your fleet. These are a little

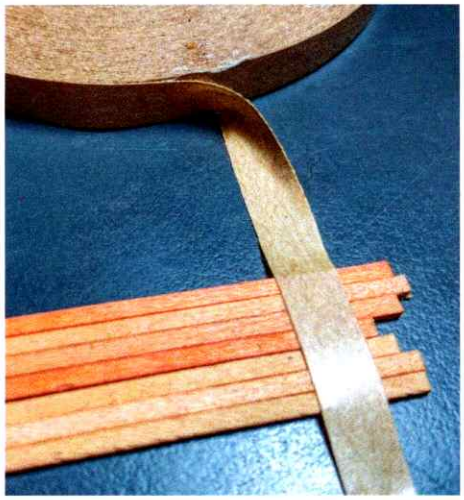


Photo 29: Staggered strips are taped together with double-sided tape.

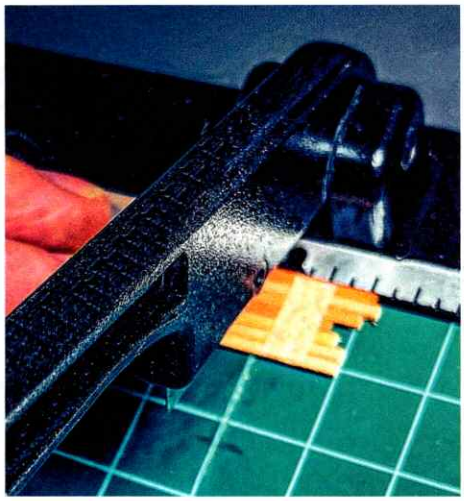


Photo 30: The strips are cut just beyond the tape to create an end piece for the stack.

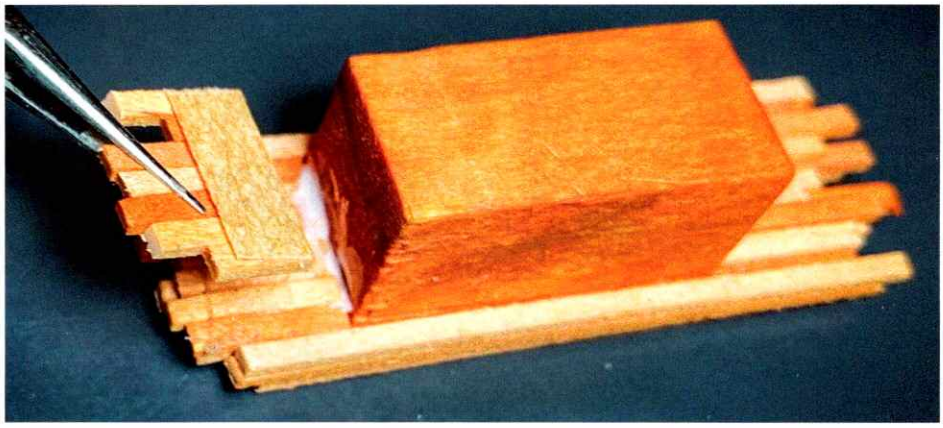


Photo 31: The end piece assembly is applied over the now-exposed tape strip on the layer below.

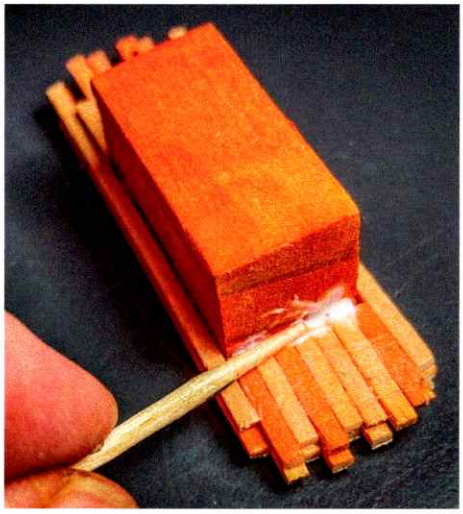


Photo 32: Glue is applied up against the core block to assure the stack has adequate strength.

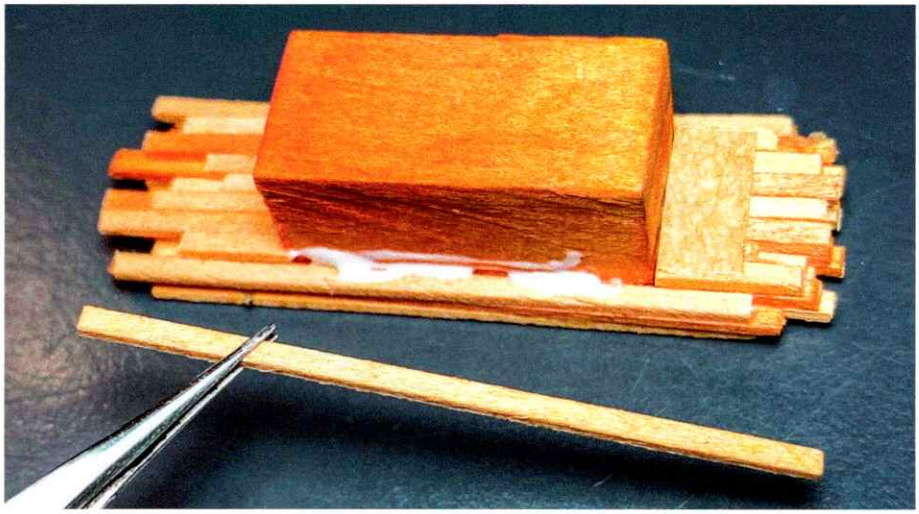


Photo 33: Once both ends get a layered piece in place, a full length side board is applied to each side of the stack, completing that layer.

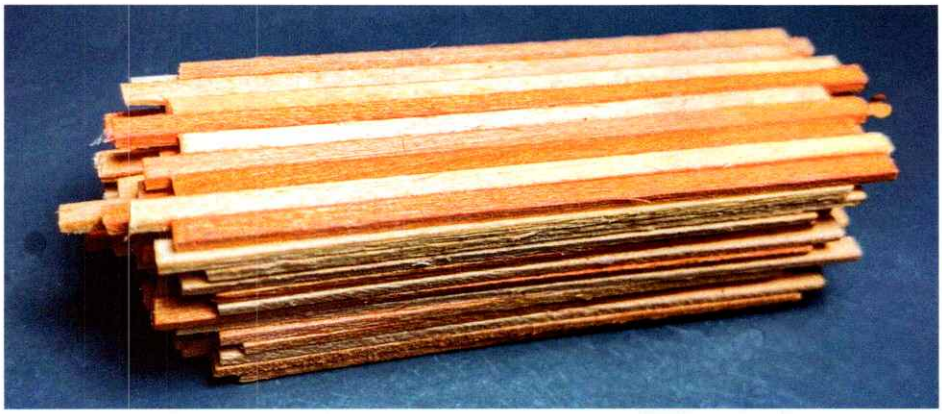


Photo 34: The stack of beams is now complete and ready for its car.

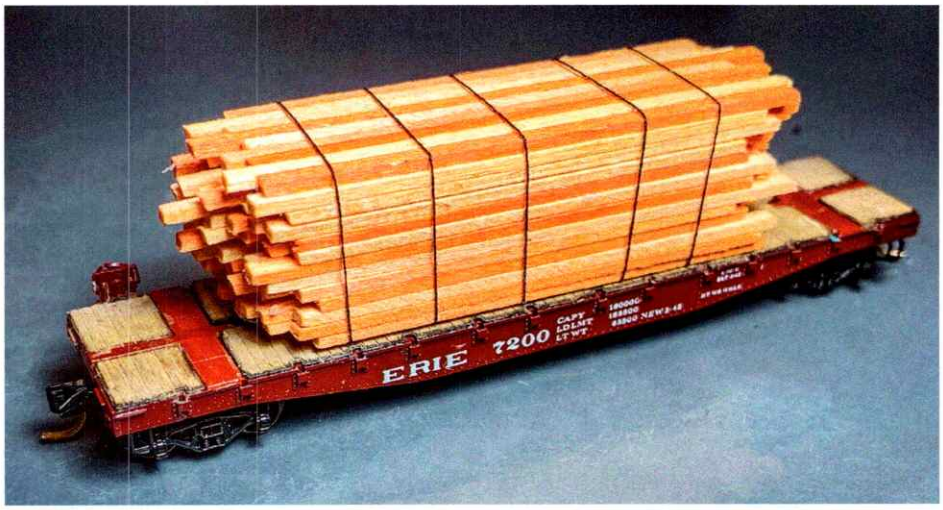


Photo 35: After carefully being glued in place, the stack receives banding.

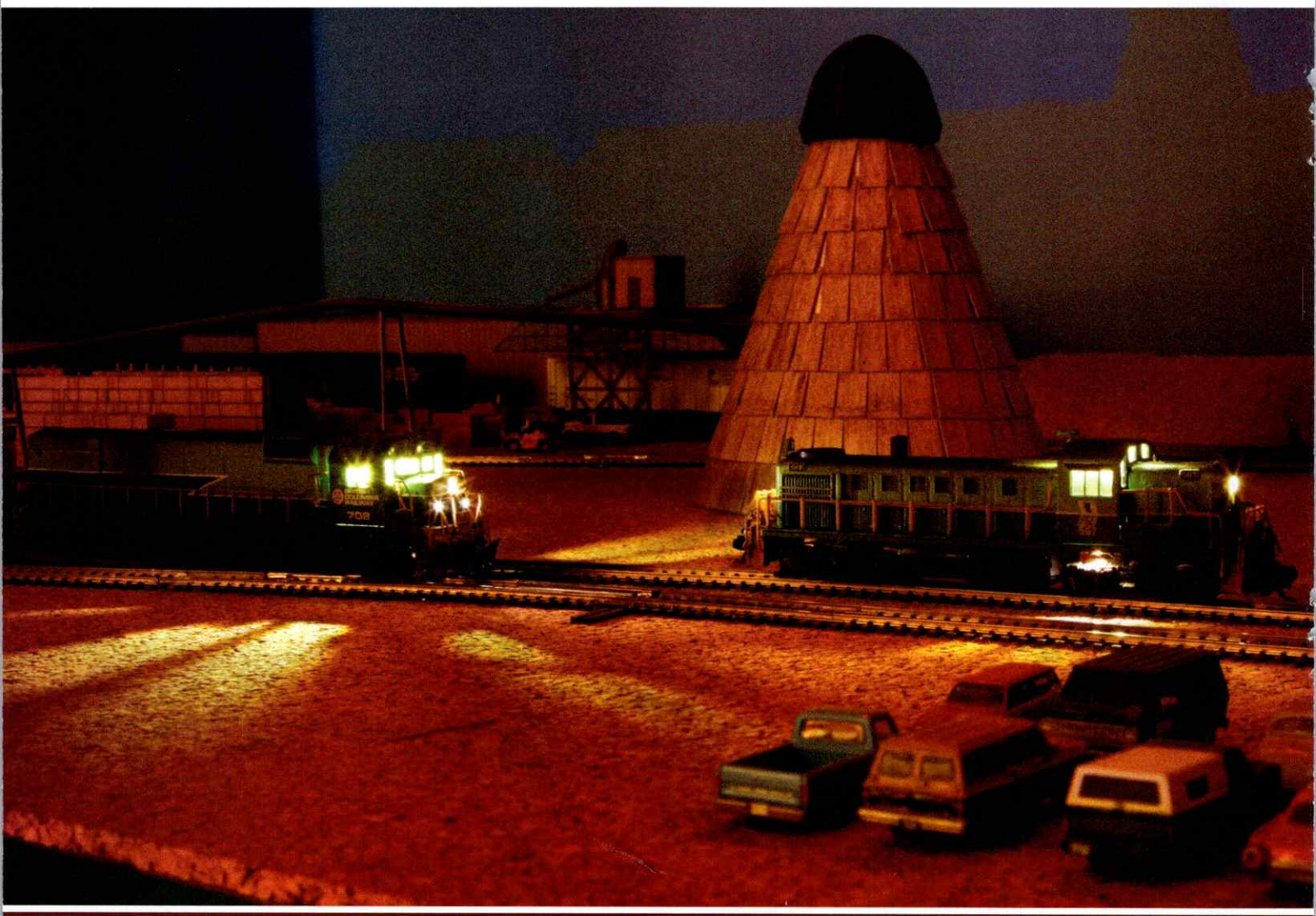
more time consuming than projects we've taken on up till now... or maybe not. But I guarantee you will be proud to have accomplished them and will want to show them off to your friends.

Now this is the first time, as I send this article off to Pamela and Walt and the crew, I cannot say what will be coming in the next installment of IN PURSUIT OF WOW. Might it be a project with Thrall All-Door Box Cars as mentioned here? Or will it be a menagerie of flat cars carrying all kinds of interesting items we just haven't thought of? Or will it be a scratch building project of some kind or another? Or a car-bashing project of sorts. Or maybe an article titled "In PURSUIT OF WOW — Repurposing Your "Junque." All of these concepts are waiting in the wings... and the world is our oyster! We may just have to wait and see! But I assure you... you won't want to miss a single one! (Subscribe, maybe?) You can also tell us what you'd like to see — just send an email to *NScaleDen@gmail.com* with your comments and suggestions.

And in the meantime, remember to keep your flanges between the rails.

Photo 36: Stakes are added to the sides and across the top for load security: It is now ready to travel the main line to its final destination.

DCC WORKSHOP



Locomotive Lighting

by **Timothy J. Horton**

Digital Command Control offers a new realm of possibilities for locomotive lighting, and this instalment will look at various options for enjoying realistic lighting operations with your motive power fleet.

Prior to the advent of DCC, analogue locomotives came with a headlight and perhaps a rear light. These lights came on when the throttle was activated and increased and decreased in intensity as the throttle was turned up or down. The front and rear lights were also activated according to the direction of travel. This was of course highly unrealistic as lights on a locomotive are independent of the prime mover and independent of direction.

Moreover, prior to DCC, the prospect of adding additional lighting such as beacons or ditch lights was somewhat daunting, requiring the installation of additional bulbs and fiber optics.

The advent of Digital Command Control made it possible for locomotive lighting to be activated and operated independently of the throttle setting. The same decoders, which provide motor control, are also capable of operating various lighting options. DCC thus provides for much more realistic operation of lighting functions. Let us look at some of the possible options for locomotive lighting with DCC and how they can enhance operations on your layout.

Headlights

The most common lighting feature on any locomotive is the front headlight. The default function for headlights is F0; accessing this function on your DCC throttle turns the light ON and OFF. This immediately increases the realism as the headlight is now independent of motor control and can be turned on or off as desired (Photo 1).

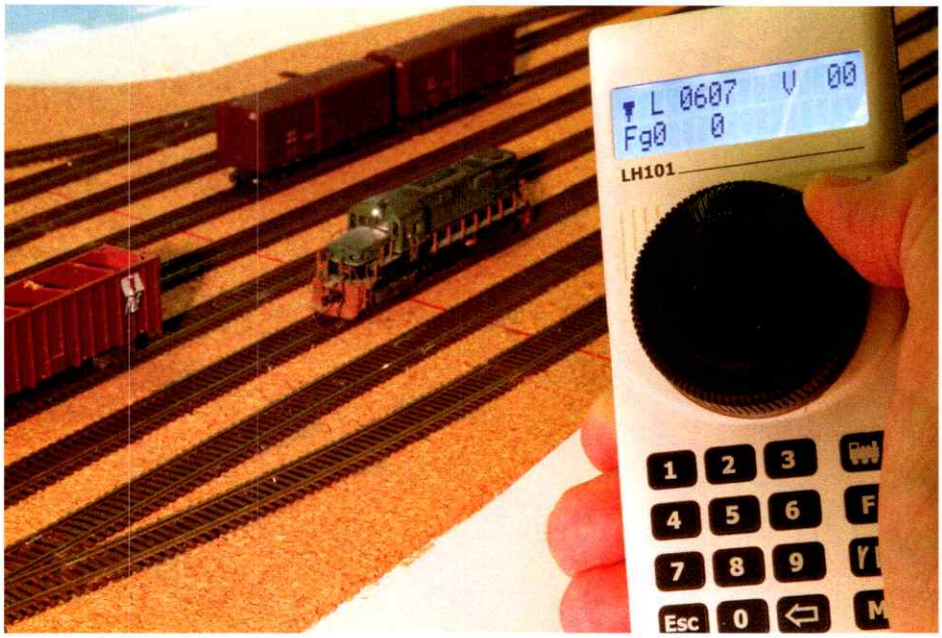


Photo 1: Activating the function F0 on the throttle turns on the headlight. With most factory-installed decoders, the default setting is directional, meaning that when you run forward, the headlight is on, and when you run in reverse, the rear light is on.

In practice, a locomotive's headlight would be illuminated prior to moving and this is now possible with DCC.

The default setting for headlights is usually directional (i.e. ON when moving forward, OFF when moving in reverse). However, this can easily be re-programmed to be independent of direction, which is more realistic. This allows a locomotive to back up while its headlight is on (***Photo 2***), or to have the headlight on regardless of direction while working in yard service as per operating rules (***Photos 3 & 4***).

Many decoders also now have a dimming feature, which allows operators to dim (rather than extinguish) their headlight when in a siding for a meet with another train (***Photo 5***).

Rear Lights

Rear lights or back-up lights can be found on most locomotives. On a steam locomotive, the rear light was usually mounted on the tender. Factory-equipped DCC locomotives might have the rear light tied in to F0 where it comes on in place of the headlight when operating in reverse.

However, the rear light can easily be assigned to a different function on the decoder so that it can be operated independently.

The most obvious reason for doing this would be when a locomotive is in yard service, in which case, the operating rules typically required the headlight and rear light be illuminated simultaneously. (Rule 18 in the Uniform Code of Operating Rules - ***Photos 3 & 4***.)

Single locomotives operating on a work train may be required to run back and forth within their work

Photo 2: Changing the headlight and rear light to non-directional allows for more realistic operation, such as these engines backing down the mainline onto a train with the front headlight and ditch lights still illuminated.

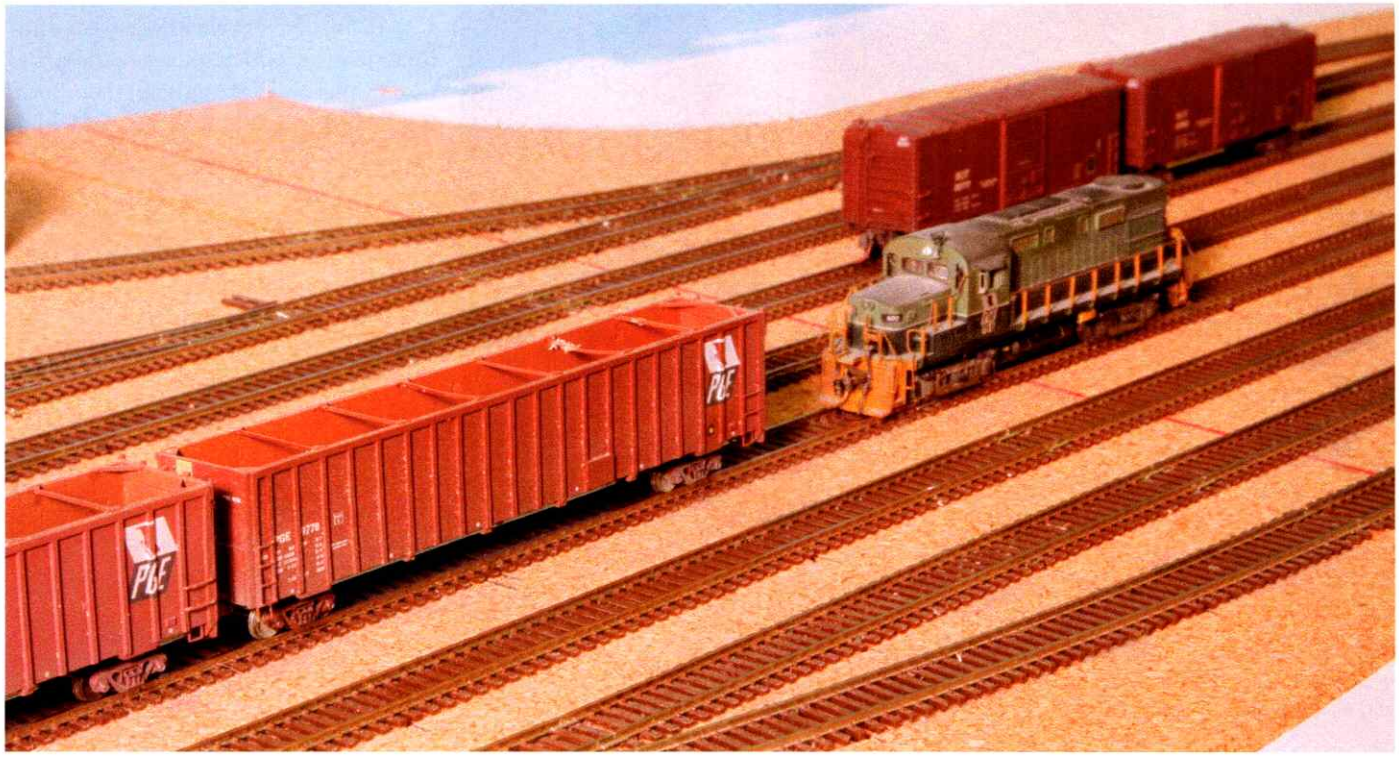


Photo 3: In yard service, it is common for a locomotive to operate frequently in either direction, requiring both the headlight and rear light to be illuminated simultaneously. Here, as an RS-18 in yard service approaches a cut of cars, we see the front headlight on.

Photo 4: As the locomotive couples onto the cut of cars, from the reverse angle, we can see that the rear light is also on at the same time.

limits, which would also require simultaneous display of headlight and rear light (***Photo 6***).

A rear light should also be illuminated when a locomotive is running in reverse on the mainline for any length of time, such as a single road switcher, which has not been turned around (***Photo 7***).

Auxiliary Lights

I use this term to describe lights other than beacons, ditch lights or rock lights, which we will look at later in this article.

Photo 5: Many of the more recent decoders, include a dimming feature for the headlight. This is most typically done when awaiting a meet. Here, southbound Engine 710 has dimmed its headlight while standing on the main track as it awaits a meet with a northbound train.

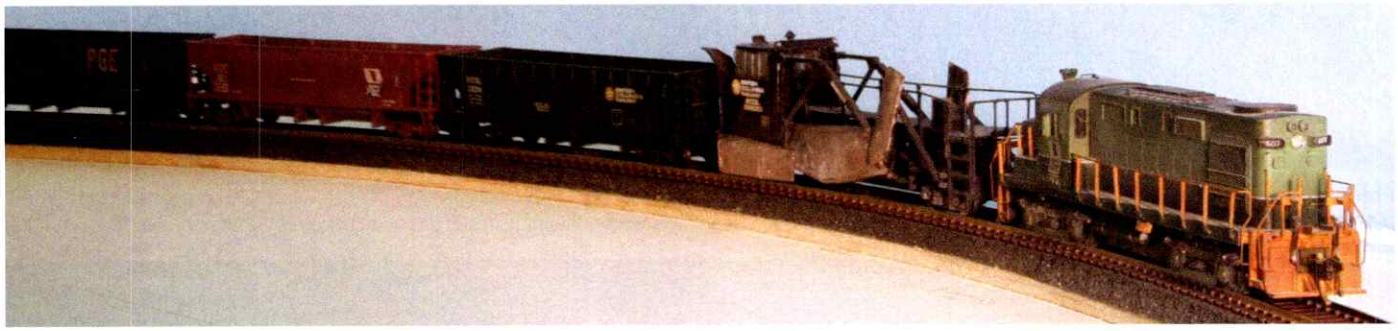


Photo 6: Work trains are another scenario where a locomotive might be operating frequently in either direction, thus requiring simultaneous illumination of the front and rear lights. In this photograph, an RS-18 is running back and forth through its work limits with a ballast train and has both front and rear lights on.

Photo 7: The rear light is required when operating in reverse on the mainline, such as this single RS-18 running long hood forward with a short revenue train.

Photo 8: Auxiliary lights are intended to supplement the main headlight. On a model, they can be assigned to the same function as the headlight, or to a different function for separate control. This RS-3 has an auxiliary twin beam light above the main headlight, and they are both assigned to function F0.

Photo 9: A Gyralight displays an oscillating pattern for increased visibility at grade crossings. This Kato SD45 in Southern Pacific colors shows its Gyralight on the nose. *Photograph by Dave Mackinnon.*

Photo 10: Many modern diesel locomotives are fitted with ditch lights to assist in illuminating the roadbed in front of the train. On this British Columbia Railway MLW M-630 they are surface-mounted on the short hood.

Photo 11: Flashing or rotary beacons are common on many diesel locomotives, particularly in the United States. This Atlas GP35 decorated for Burlington Northern has a rotary beacon at the leading edge of the cab roof. *Photograph by Dave Mackinnon.*

Auxiliary lights are intended to augment the original headlight and were commonly found on first and second-generation diesel locomotives (***Photo 8***).

With DCC, these lights can be configured to operate in tandem with the headlight (useful if you have a limited number of functions on the decoder) or they can be configured to operate independently.

Gyralights and Mars Lights

These warning lights were found on locomotives of numerous railroads and were introduced to increase the visibility of a train approaching a grade crossing. They were usually mounted in addition to the regular headlight. Gyralights were manufactured by the Pyle National Company and sweep in an oval pattern. Mars lights were manufactured by the Mars Signal Light Company and generated a figure eight pattern.

These types of lights can be replicated with suitable housings available from numerous manufacturers and will need to be assigned to a separate function on the decoder, which can simulate the oscillating pattern of this type of light (***Photo 9***).

Ditch Lights and Rock Lights

These lights are typically found on the front of modern diesel locomotives, particularly in Canada. Prior to DCC, it was often a challenge to install working ditch lights on a locomotive, as the light housings are rather small and sometimes mounted on a post above the deck. With the advent of DCC, tiny LEDS and magnet wire, these types of installations are now much easier.

Ditch lights and rock lights can be assigned to a separate function from the headlight and turned on and off independently. The lights can also be configured to oscillate back and forth (as is commonly seen in the United States) or can be set for constant illumination (as is usually the case on Canadian diesel locomotives - ***Photo 10***).

Beacons

Many locomotives are equipped with rotary or flashing beacons for extra visibility. These are typically mounted on the cab roof of a locomotive and are usually amber in color.

A beacon can also be assigned to a separate function and most modern decoders will be able to have the desired function configured for correct operation of a beacon (***Photo 11***).

Photo 12: Cab lights are an interesting addition to a model locomotive, as they can suggest occupancy, even when the train is not in motion. In this photograph, we see several locomotives on the shop tracks awaiting their assignments with their cab lights on, but all other lights turned off.

Photo 13: Safety lights or inspection lights are mounted beneath the frame and shine down onto the truck beneath the cab. On this RS-3, the safety lights are installed in vertical tubes mounted inside the cab walls.

Cab Lights

If you have a spare function on the decoder, you might consider installing a cab light in your locomotive. Cab lights were almost always on and their presence helps to suggest that the locomotive is occupied by a crew. In many cases, the cab lights were left on even when engines were sitting at a terminal or engine facility (***Photo 12***).

Safety Lights

Most diesel locomotives have small safety lights beneath the cab and in the stepwells at each end. The advent of super small LEDs now make this type of lighting possible. We are starting to see safety lights on some ready-to-run HO Scale locomotives; can the same for N Scale locomotives be possible one day?

Photo 13 shows an N Scale MLW RS-3 locomotive with safety lights beneath the cab. These LEDs were mounted in small vertical tubes inside the cab so that they only shine downward onto the trucks as per the prototype.

Other Equipment

Digital lighting can also be used for some items of work equipment, which had headlights or work lights. This would include snowplows, Jordan spreaders, and cranes to name a few.

DCC also offers the option of turning internal lighting in passenger cars, cabooses, and work equipment on and off. Cabooses also had marker lights, which can be turned on or off at either end, depending on direction of travel (***Photo 14***).

If you are modelling the modern era without cabooses, DCC enables the accurate representation of a flashing FRED or SBU unit at the end of a caboose-less train (Photo 15). The required flashing unit can be hidden inside the car and powered either by battery or from the track.

Photo 14: Cabooses also have lighting options, which can include interior lighting and marker lights. This BN caboose from Atlas displays a single red light to the rear of the train. *Photograph by Dave Mackinnon.*

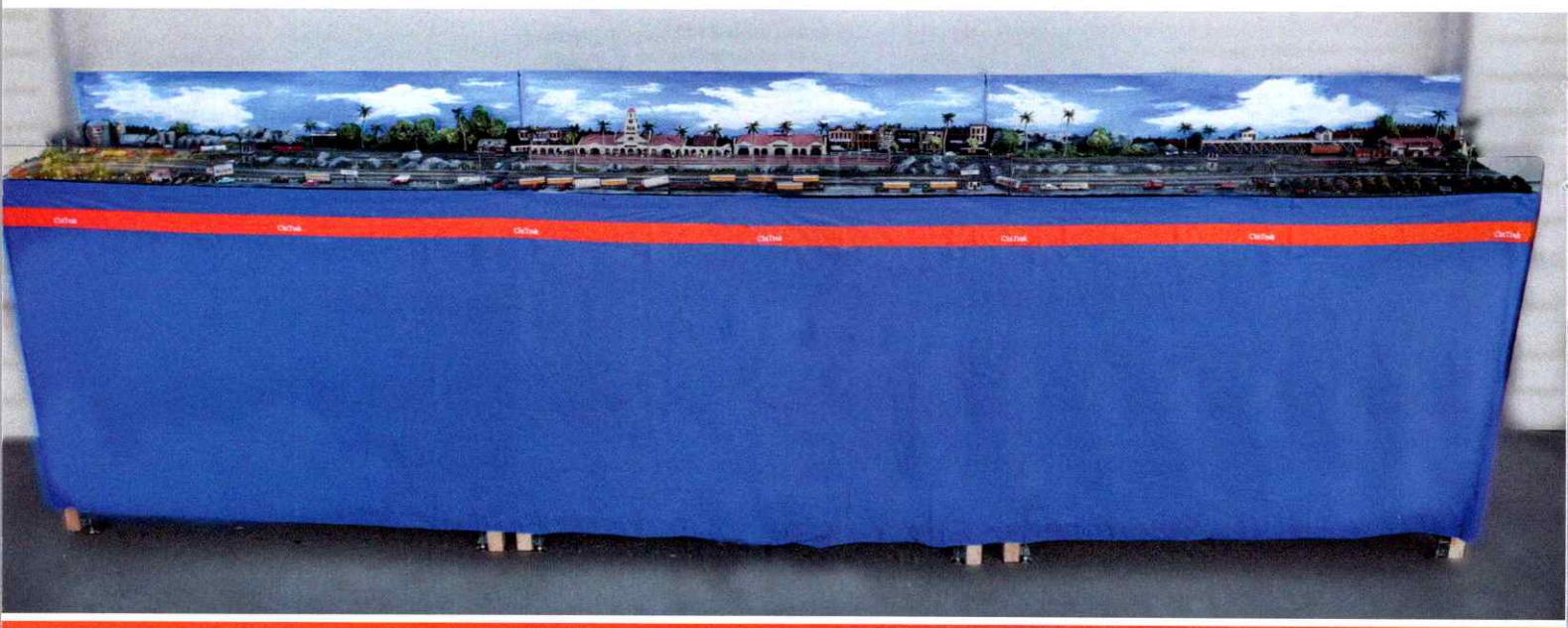
For all these applications, which do not require any motor control, a stationary decoder (i.e., one which provides function control but no motor control) may be used. These are typically less expensive and are often smaller, enabling them to be located more easily within various types of rolling stock.

We hope that this article will encourage you to explore the many lighting opportunities afforded by DCC and to enjoy the increased realism which these lighting opportunities provide.

Acknowledgements
Once again, a sincere thank you to Central Hobbies of Vancouver (*www.central-hobbies.com*) for product loan, and to Dave Mackinnon of Details N Scale (*www.detailsnscale.com*) for supplemental photography.

Photo 15: If you are modeling the post-caboose era, it is possible to mount a small LED inside an EOT (end-of-train) device for display at the end of a train, such as on this Micro-Trains hopper car. The flashing unit is inside the car. *Photograph by Dave Mackinnon.*

SAN JOAQUIN



A 12 foot NTRAK Module Set, Part 1

by **Bob Parsons**

Photo 1: Overall view of the 12' San Joaquin NTRAK three-module set as it will appear at train shows. The blue/orange skirting is how we at CINTRAK (Central Indiana NTRAK) dress our layouts at shows in order to hide legs and various operational equipment from view.

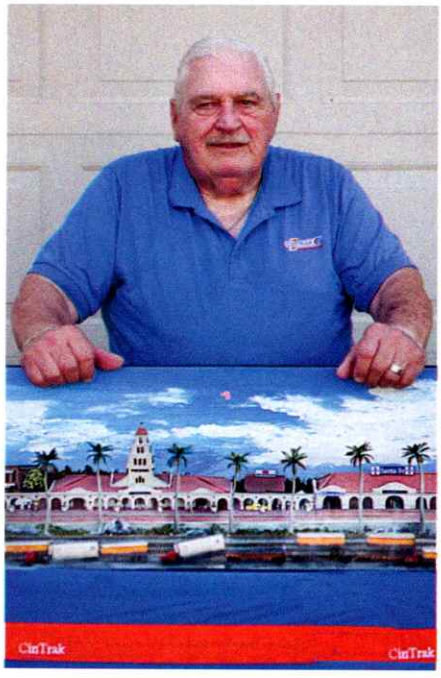
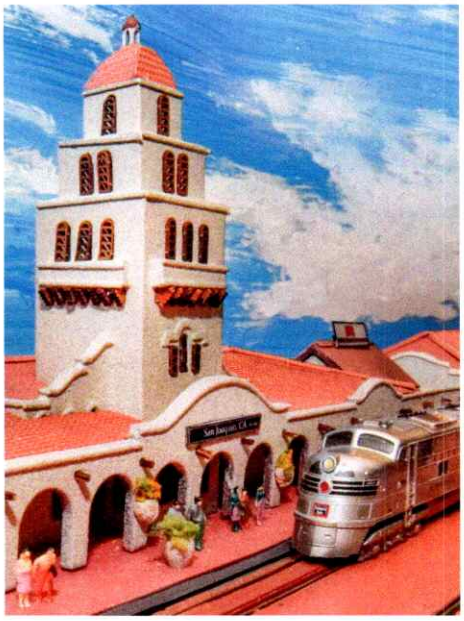


Photo 2: This is me behind the San Joaquin module set.

Photo 3: The depot in the background is the main "theme" which the rest of the scene is built around. It is a highly modified Red River Models kit based on the Santa Fe Albuquerque Depot laser cut kit. The freight house in the foreground mimics the mission style architecture of the main depot and was scratchbuilt from Styrene.

It has been a few years since my New England harbor themed Narragansett, Fitchburg & Boston NTRAK module last appeared in *N-Scale Magazine*. Unfortunately, "Big Bertha" as fellow club members have "affectionately" named it, has increased in complexity of set-up, not to mention weight, and has become quite an undertaking to transport and set up.

At larger train shows, my club, CINTRAK (Central Indiana NTRAK) has adopted a system of using a scheduling board to allocate 90 minute running time slots. This guarantees all club



Photos 4-5: These images show details of the San Joaquin, California Santa Fe depot as it might have appeared in 1959-60 and the arrival of the California Zephyr behind a pair of gleaming Kato E-5s. Since I have taken the liberty of moving the location of the actual town of San Joaquin from Northern, California halfway down the state to Southern California, I see nothing wrong with having the California Zephyr arrive behind Burlington power. I am not a prototypical purist, so I believe that one of the privileges of model railroading is you can do anything that, if your railroad looks good to you, you get to do whatever you want. After all, you own the railroad.

Photo 6: Santa Fe's only Fairbanks Morse "Erie Built" locomotive arrives in San Joaquin at the head of their flagship streamliner, The Super Chief. The locomotive was built using a custom painted and lightly weathered VL shell mounted on a DCC equipped Kato PA-1 chassis. Most of my passenger equipment is Santa Fe, but I also have a bit of Burlington, Union Pacific and even Milwaukee Road for the sake of variety.

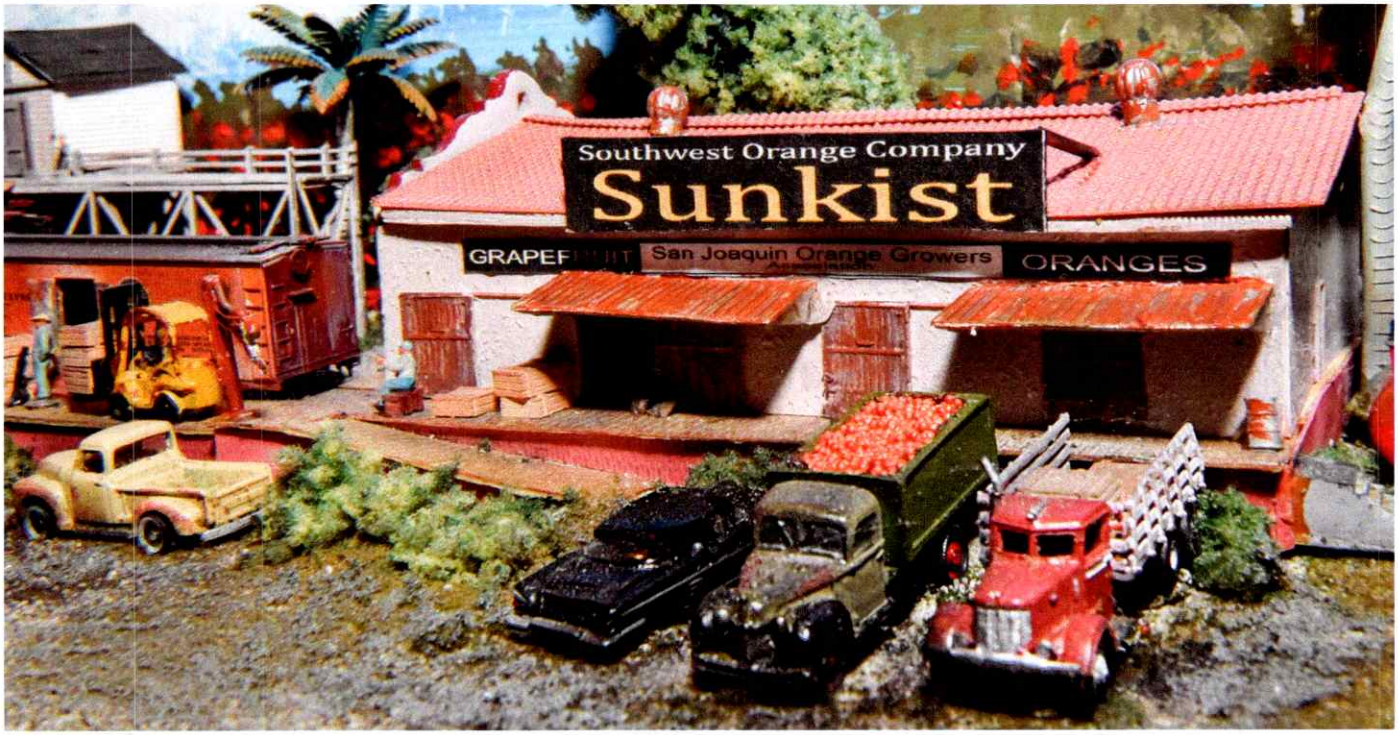
members equal time to run their trains. In order to keep the layout and yards accessible, it is also required that trains be removed from the layout between these allocated running sessions. While this system has proven to work well, the assembly and disassembly of consists at the beginning and end of running sessions, though necessary, is somewhat tiresome.

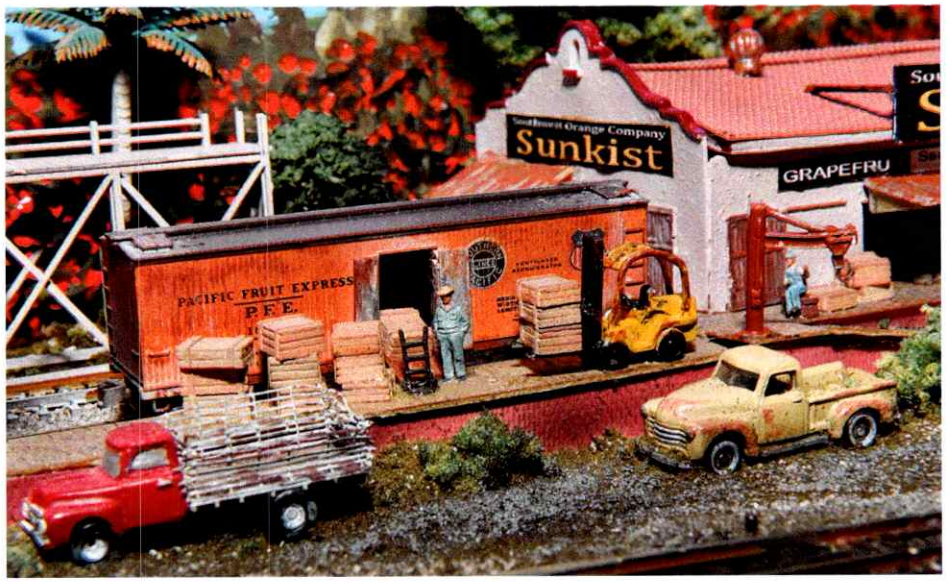
My favorite trains are the classic "name" passenger trains of the 40s and 50s, and I have long had the idea of building a set of modules that would incorporate a large passenger depot with long, multiple arrival/departure tracks.

A depot such as this, would permit me to "park" several full-length passenger consists between my own running sessions. This idea remained in "pipe dream" status until last fall when a fellow club member mentioned that he had constructed several bare 4-foot NTRAK modules. They had 1×4 frames and a deck of Luan plywood and he would be willing to sell them. The only problem was that they were originally intended to be used as One-Trak modules and were only 15" deep. After seeing how beautifully constructed they were and determining that I could probably add a 9" wide extension to the tops to bring them up to the standard NTRAK 24" depth, I bought them. I even persuaded him to build me a third, giving me total length of 12'. My original goal was to have them completed in time for the 2020 National Train Show in St. Louis, but the COVID-19 crisis made that goal irrelevant with cancelation of that show, as well as the 2020 NMRA Convention. After acquiring the modules, I considered several methods of enlarging the tops, but before doing so, I revisited the official NTRAK manual.

While the standard NTRAK module depth is 24", it is permissible to add 6" to the front and/or rear, such as I did with my Narragansett, Fitchburg & Boston module that is 32" deep. Further reading revealed that narrower modules are also permitted (though not recommended). This fact

Photos 7 & 8: These images show oranges being harvested. They are gathered and loaded on a wagon, towed by a Ford tractor, before being transferred to a waiting stake bed truck for the short trip to the Sunkist processing plant. The truck needs to access the highway and then cross the three mainline tracks in order to reach the plant. The orange trees are small handmade "bottle brush" type trees sprinkled with ground foam and Woodland Scenics "fruit."





Photos 9-11: These images show the Sunkist Orange processing plant with its loading dock and adjacent siding. Oranges are brought from the grove in trucks before being unloaded, inspected, graded and then packed in crates for shipment by rail in refrigerated reefers. The crates are loaded with a forklift, as well as by hand when needed. To model the reefer, I cut the doors of a Micro-Trains reefer open and then permanently positioned it at the loading dock. A Santa Fe 44-ton switcher moves the reefer between the ice dock and loading dock, as well as assembling them in blocks for movement to markets in the east.

negated the need to modify the depth beyond 15". As long as I had a very stable leg system and module joining method, I reasoned that my narrower modules would not compromise the stability of our CINTRAK layouts. Another benefit was that by using 15" deep modules, along with NTRAK's 8" minimum backdrop board height, I could fit all three modules into my relatively small vehicle for transport. Enthusiastically, I began to acquire the necessary supplies, (scenery materials, track, turnouts, buildings, etc.). In order to begin construction, but not long after I started this project, the COVID-19 Pandemic struck. With its quarantine guidelines, I was confined to my home (and train room), but I had actually, unknowingly, prepared myself for such a scenario by spending a good portion of my youth in "grounded" status. The new module

Photo 12: Both of these images show the orange loading operation, as well as the Sunkist icing plant in the background.

Photo 13: This image shows the mainline tracks and yard leads with the icing plant in the background.

project started in January 2020 and was completed in early July, but with no train-shows scheduled, it is now in storage with "Bertha." As mentioned, passenger train operation was my main priority, so I began my initial planning with a large depot as the central theme. I have long admired the "mission style" depots of the Santa Fe in the Southwest, so I decided that Southern California would be an interesting area to model and would be a nice change of pace from my previous New England harbor modeling efforts. Coincidentally, the Santa Fe is one of my favorite railroads, so this theme seemed like a natural to me. My initial plan was to feature a large depot with four arrival/departure tracks, along with various support structures. It soon became apparent, however, that the narrow depth of my new modules would preclude the modeling of a complex of this size, while still

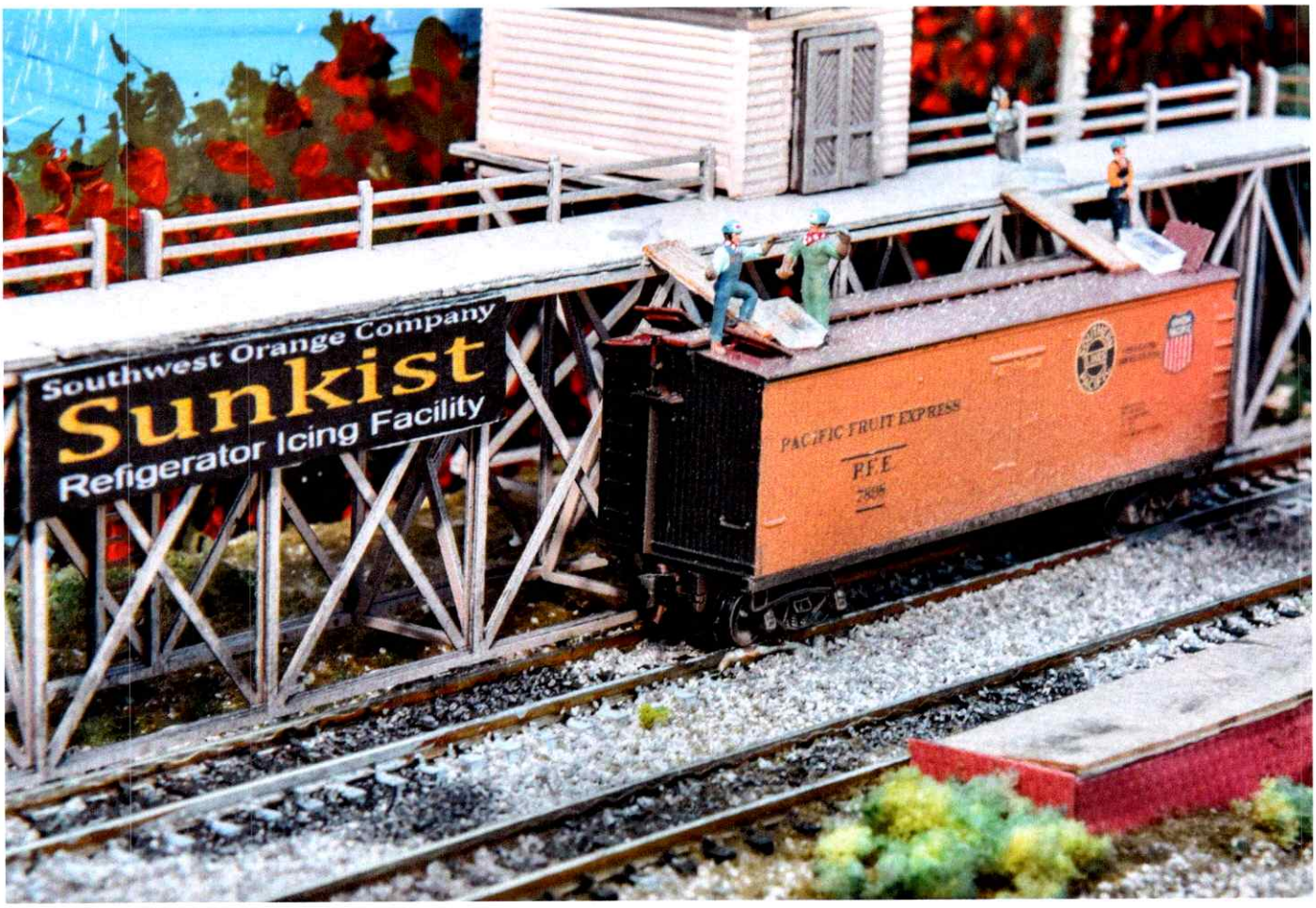


Photo 14: A refrigerated boxcar "reefer" being loaded the "old fashioned way" prior to mechanical refrigeration. Large blocks of ice are brought out onto the dock where workers with long spikes and tongs slide the blocks down short ramps onto the car roof adjacent to ice reefer hatches. They are then broken into smaller chunks and loaded into the ice bunkers, along with an appropriate amount of salt to keep the car at the desired temperature during transport.

Photo 15: UKE'S Tire Service is now abandoned. The business was housed in a war surplus Quonset hut that has certainly seen better days. (Beginning in 1941, the Quonset Hut was manufactured by the thousands during World War II by the George A. Fuller Construction Company at Quonset Point at the Davisville Naval Construction Battalion in Davisville Rhode Island.)

accommodating the three NTRAK mainlines. Track planning has always been one of my favorite aspects of the hobby and module track planning is even more challenging because of size constraints. With only 15" of depth to work with, I grudgingly accepted the fact that two depot tracks and a short freight station/Railway Express track would be about all that I could squeeze in, while maintaining any semblance of realism.

One thing that I did in order to gain more separation between the depot and mainline tracks was to shift the mainlines 2½" toward the front edge of the modules. I used very gentle 36" radius curves at both ends to transition from the standard NTRAK spacing to this new spacing. While it may not sound like much, 2½" made a world of difference and created ample space for scenic possibilities between the mainline tracks and the depot.

Photo 16: Pete's Garage is a Mobilgas filling station and garage located at the very front of the left side module. It was built from a resin kit of unknown lineage that I thought really was typical of a 30s or 40s era filling station with its roof overhang and supporting arches. It is also painted with the texture paint and roofed with tile, as are most of the other buildings on the module(s). It has a number of vehicles being serviced, a Mobilgas tanker filling the gas storage tanks and an abandoned school bus being used for storage around back and stacks of tires and barrels scattered about. I printed signs for this and the other structures on the modules using Adobe Photoshop to help set the era and locale.

My track laying was rather straightforward. After marking my track centerlines directly on the wood base, I affixed cork roadbed using contact cement. After ensuring that I had cork under everything, including turnout locations, I block sanded it to ensure smoothness. I then laid Atlas Code 80 flex track and Peco Insulfrog turnouts, again using contact cement, albeit sparingly. After laying the track, I installed the wiring under the modules per NTRAK guidelines. The wiring at both outer module ends terminates with appropriately colored Anderson PowerPole connectors and, for connecting wiring between the modules, I used color coded XT-60 "bullet connectors." For track ballasting, I used a mixture of fine grey and dark grey ballast by Woodland Scenics. On past projects, I have distributed ballast with a cup and small brush, but this time I tried one of the plastic Proses ballast spreaders and it made the job go quickly. The ballast was spread evenly over the roadbed using the ballast spreader and then touched up with several soft brushes. The roadbed was then thoroughly soaked by misting with "wet water" (water with a drop or two of dish soap); I then permanently affixed the ballast with a mixture of 50/50 Liquitex

Photo 17: Immediately behind Pete's Garage is a small cattle farm populated with a number of Woodland Scenics cattle. A farmer drives his Ford tractor and wagon from the Imex resin barn through the pasture, which is surrounded with typical farm fence.

Photos 18-20: This area was created to fill an irregular piece of "real estate" behind the mainlines and depot tracks. It was created from tanks, structures and refinery details from Kibri, Walthers, Faller and others. There is even a make-up container or two from my wife's cosmetic drawer. Almost everything was painted silver with a liberal application of Mobilgas signs for continuity. A number of semi-tank trucks are placed here, simulating a busy petroleum terminal.

Matte Medium and wet water and a bit of alcohol using a large eyedropper. I prefer matte medium over the more typical white glue method because it dries flat and is slightly flexible when dry. Flexibility is an important consideration with modules that inevitably get banged around a lot during transport, set-up, and take down. I painted all of the track and ties and then weathered the ballast/roadbed center with faint airbrushed streaks of black to replicate years of passing trains. I also added a few black spots with India ink to replicate oil spills, appropriate to where locomotives might be idling while stopped. I gave a lot of thought on how to solidly join the modules together in lieu of the traditional C-clamp and joiner track method. While joiner tracks are necessary with modular layouts, typical joiner tracks always look like, well, typical joiner tracks and they glaringly point out the gaps where the modules join. I toyed with the idea of simply having the module tracks butt against one another, but this introduces the possibility of slight vertical misalignment almost certain to create operational woes. My final solution was to use 4" joiner tracks ganged together in one solid unit, disguised as a road with R.R. grade crossings. This method nicely hides the gap between modules and creates a rigid transition piece that maintains perfect alignment,

Photo 21: This image shows the 2×2 legs and lathe furniture leveling feet. I found these feet on EBAY and, although a bit pricey, they make leveling of legs much easier. They are much more stable than the typical dowel rod/eye bolt systems often used on NTRAK modules.

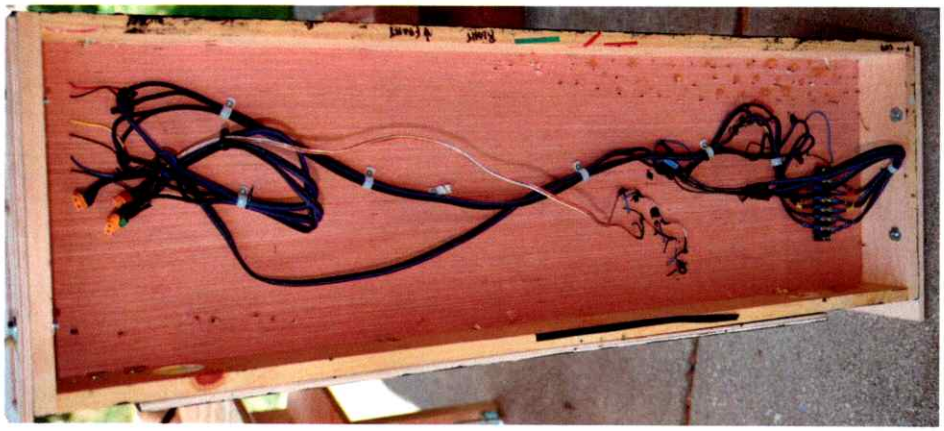


Photo 22: My wiring is relatively simple, consisting of heavy bus wires and track feeders, all soldered.

while appearing to be a road. I hide the slight gap remaining at the ends of these roads by placing semi tractor-trailers over them.

To physically join the modules, I use a wooden dowel indexing system on the module faces, as well as 5/16" bolts instead of "C" clamps. This ensures module joints that are absolutely level and rigid. My legs are 2×2 wood with integral shelves that are bolted securely to the modules. Admittedly, this increases set-up and teardown time a bit, but I think that the added stability makes it worthwhile.

At the bottom of each leg, I mounted an adjustable Lathe leg furniture leveling foot, which I find vastly superior to the standard methods. While they aren't as inexpensive as the typical dowel/carriage bolt system, they are much more stable and are easier to adjust. At the

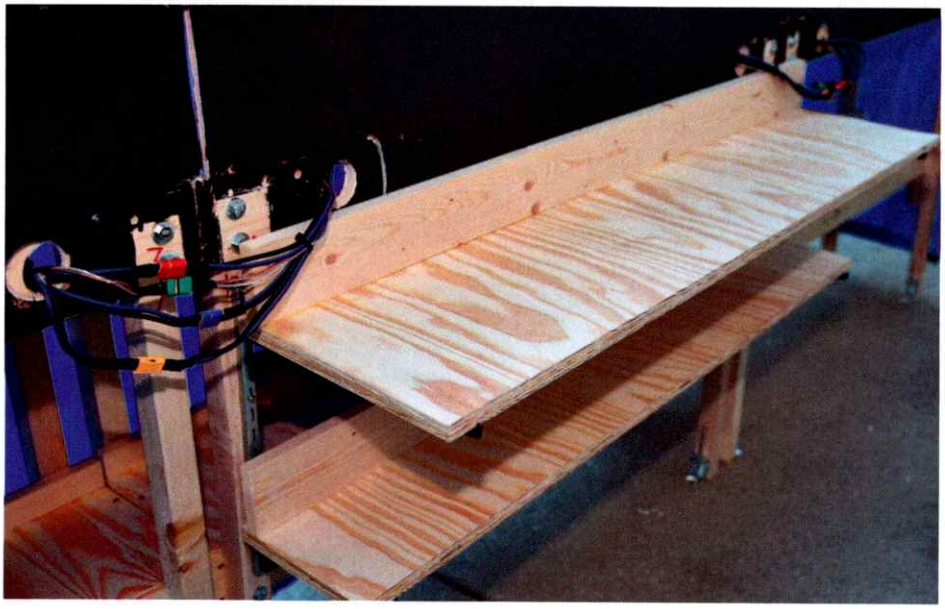


Photo 23: As an afterthought, I hung these removeable shelves on the back of the center module. Both are 4' wide with one being 8" deep and the other 12". This makes a nice work area for building, testing and programming chores at shows without always having to look for the always-scarce community table space at shows.

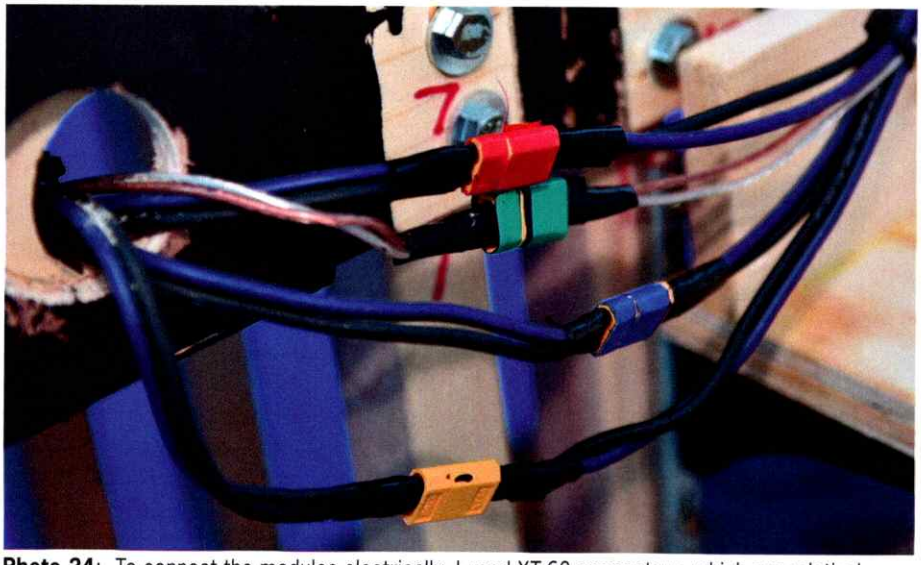


Photo 24: To connect the modules electrically, I used XT-60 connectors, which are relatively common in the RC community. I could have used the same Anderson PowerPoles that are used on the ends to connect to the rest of the NTRAK layout, but I had a chance to try these and, so far, they have worked out quite well.

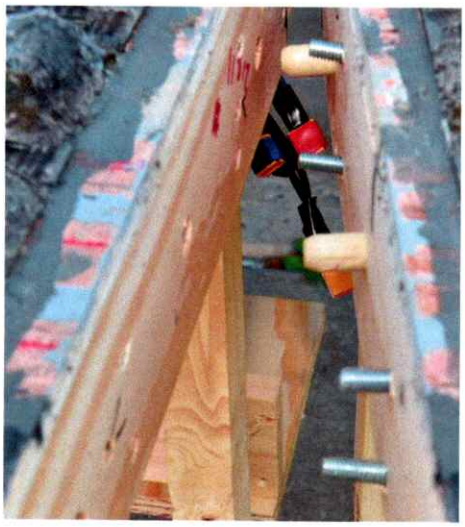


Photo 25: This is the dowel and 5/16" bolt indexing system I used to ensure that the joined modules are absolutely level and securely joined at shows. "C" clamps would probably suffice, but this system works better IMHO.

Photo 26: This is the system I use to connect all of the tracks between the individual modules. All tracks are exactly the right length and are spaced correctly and mounted on a thick piece of Styrene, disguised to look like a road. This ensures absolute flatness at the module joints and does a good job hiding the gaps between them. I think the enhanced appearance over standard individual joiner tracks made the effort worthwhile.

Photo 27: Even with 2×2 legs, it quickly became apparent that my module set needed additional stability. I considered diagonal bracing, but opted instead for a rectangular box that ties all 4-module legs together near the floor. It solved the problem, and to increase their usefulness, I put Luan across the top as a shelf.

Photo 28: The San Joaquin module set and supporting items loaded and ready to go.

rear of the center module, I installed two 4' shelves, one of which is 12" deep and the other 8". This gives me a workspace at shows and, with a short length of track and a Digitrax Zephyr, a means of DCC programming and testing. Module set-up and tear down time is proven to be around 1 hour.

On the San Joaquin, my main goal was to try to make everything as realistic as possible even though , as mentioned earlier, I took some liberties with regard to locale, as well as the mixing of eras of rolling stock. My overall goal was to give onlookers the feeling that they were actually looking at a California town, while providing a bit of operational capability. With this in mind, I tried to incorporate appropriate scenic elements, signage etc. that would reinforce this to viewers.

The Short & Nn3arrow

Modeling the Pacific Coast Railway (Part 12) – Oops!; Avila Section; In the Tall Grass

by **Tom Knapp, MMR#101**

As I write this in the fall of 2020, the Covid-19 Pandemic is still with us, although Hawaii is slowly and carefully opening up for tourists again. While the global pandemic is tragic and painful, I believe for model railroaders the impact of being confined to the home is less burdensome than for others. Stay home, stay well, stay busy with all those projects on your workbench and layout.

"To Nn3 or Not to Nn3.."

For most who read this magazine, that is NOT the question. I received an e-mail from a reader recently who said while he really likes and follows this column, he has absolutely no interest in pursuing narrow gauge. I get it. Narrow gauge modeling in ALL scales (with the exception of F) is a small fraction of the total number of modelers in that particular scale. While I hope this column encourages N scale modelers to try narrow gauge, I also try to include content that will be informative to N scale modelers of any gauge, whether cutting-in grass mats and integrating them with static grass, a new switch machine and floating turnout actuating rods, constructing sectional layouts, or other products or techniques described in this column. I hope something here is useful to you, the reader.

In this issue, I continue constructing the "dominos" that will form my new sectional layout modeling the Pacific Coast Railway in the late 1920s. The first section described in this series was the PCRy headquarter facilities in San Luis Obispo. Then followed the refurbishment of the 1980s museum display of Port San Luis at the far western end of the PCRy. This was followed by the construction of the shore-side yard. Continuing from the wharf towards San Luis Obispo, this issue will take the railroad into the Avila section.

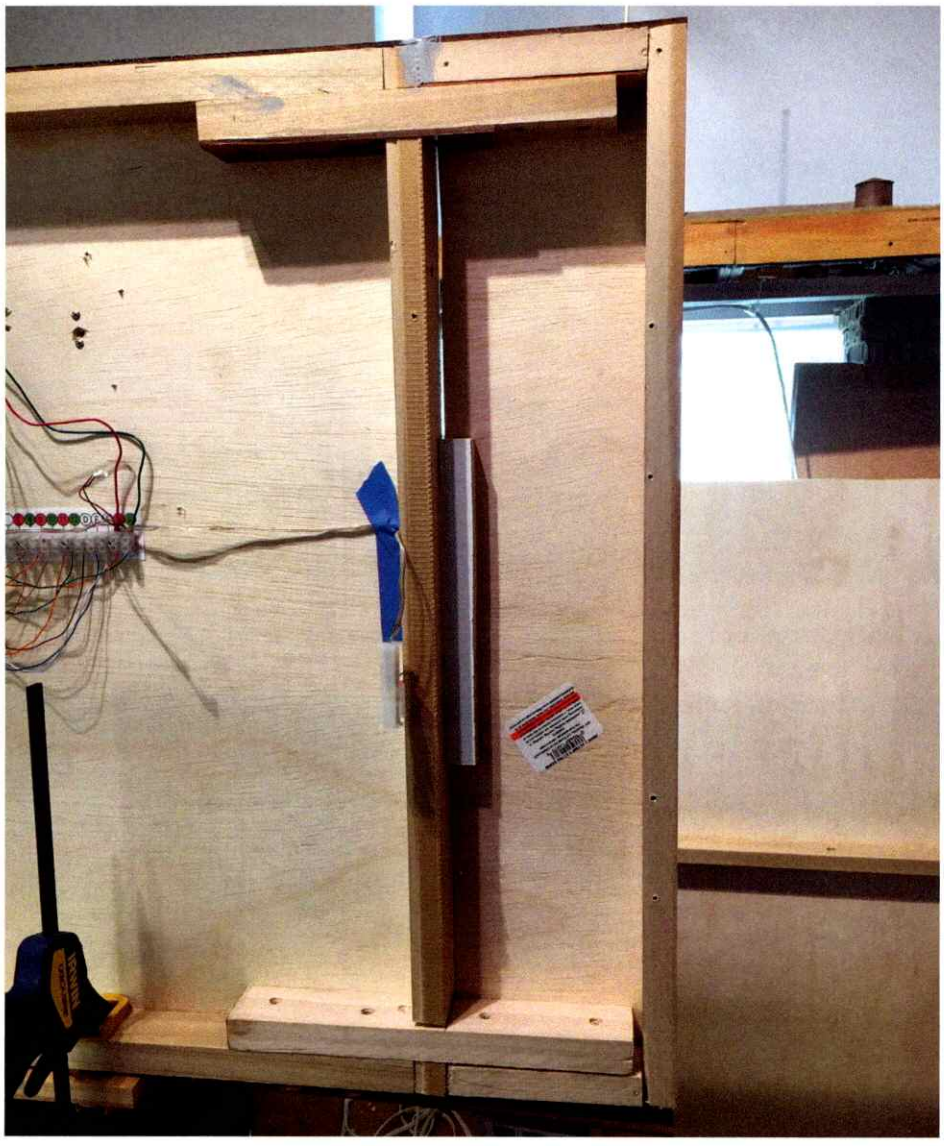


Photo 1: Five inches was added to the Yard section with 1×2 reinforcing at the joint between the original section and the extension.

OOPS!

The original plan was to end the Yard section of the layout at the east end of Bridge No. 5, where the truss bridge spanning the mouth of San Luis Creek changes to a trestle bridge transitioning to grade at Avila. However, this would put most of the seam between the sections through the water at the mouth of San Luis Creek. I decided to add 5 inches to the baseboard to put the joint at the bulkhead where the track transitions from a trestle section to track-on-grade, as it will be easier to disguise the seam on the beach. Since I had already constructed the baseboard for the Avila section, I just cut five inches from that section

Photo 2: The Avila grocery on Front Street – right across from the beach – where in the 1960s the author bought the book that first introduced him to the Pacific Coast Railway. (Photo from the book *Images of America: Avila Beach*[1] courtesy Arcadia Publishing)

Photo 3: Looking across the mouth of San Luis Creek towards Avila, you can see the long low trestle – Bridge No. 6. (Photo from *The Pacific Coast Railway: Central California's Premiere Narrow Gauge*[3] courtesy Benchmark Publications)

Photo 4: Lumber staged in Avila after unloading at the wharf – assumed along the Miguel Street spur. (*Photo courtesy Benchmark Publications*)

and scabbed it onto the end of the Yard section (***Photo 1***).

AVILA

This next section of the layout includes the town of Avila (officially renamed "Avila Beach" in the 1950s), founded by Inocenta and Juan Avila (mother and son) in the 1870s. The small town was built on the side of a hill down to the beach. I won't cover the construction of the town in this issue as I am still researching which of the several historic structures to include, assisted by the photos in the book *Images of America: Avila Beach*[1]. One will certainly be the Avila Grocery (***Photo 2***) where in the 1960s I bought my first copy (now dog-eared and tattered) of Gerald Best's book about the PCRy – *Ships & Narrow Gauge Rails*[2].

After crossing the mouth of San Luis Creek on Bridge No. 5, the railway crossed the shallow wetlands along the bank of the creek on a long, low trestle – Bridge No. 6 – then skirted town to the north, running along the bank of the creek (***Photo 3***), with a spur running into Avila down Miguel Street. Along this spur lumber – off-loaded from coastal schooners at the Port – was staged (***Photo 4***) before being taken into San Luis Obispo and the Pacific Coast Coal & Lumber Company (across South Street from the PCRy yard.) There was also a spur down to the beach where sand was collected. As the PCRy mainline passed the hill on which Avila was/is situated, there was what appeared to be a small "whistle-stop" station – more of a shack – then the track again crossed San Luis Creek at another low trestle – Bridge No. 7. Nearby was the Port Harford Asphalt Company, which retained its name even after the Port was renamed in 1907. (See the July/August 2019 issue of *N-Scale Magazine*.) The track plan for this section would make a turn along San Luis Creek after the asphalt plant spur and head towards the San Luis Obispo section of the layout. I only modeled one spur at Avila – the one down Miguel Street, and will use this not only for the lumber storage, but also for simulating the loading of beach sand onto gondolas (***Figure 1***). I decided to transition from Code 40 hand-laid

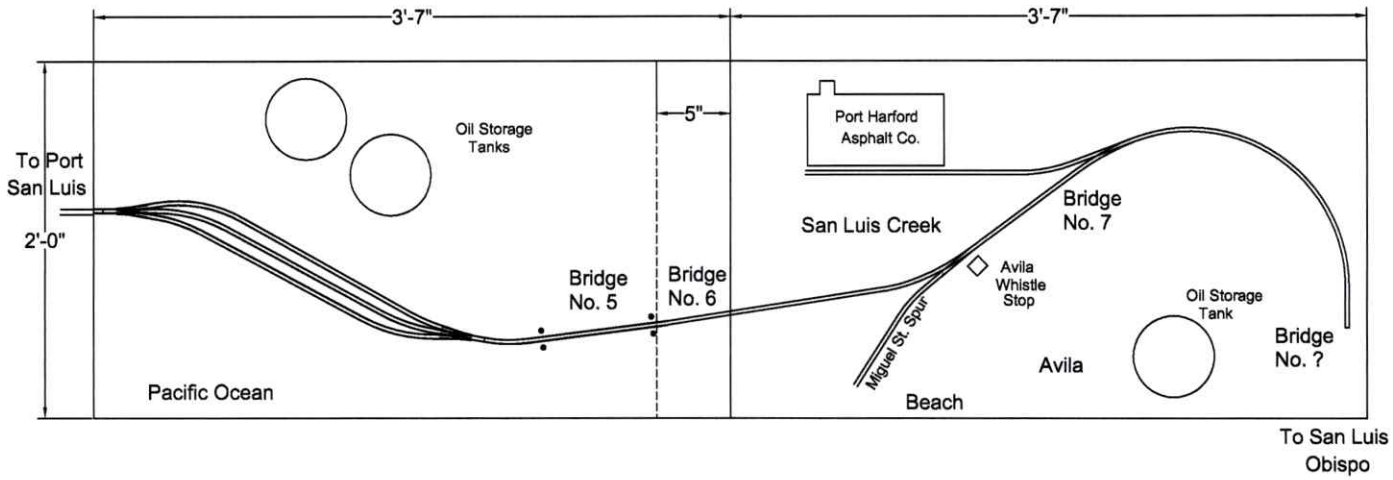


Figure 1: The track plan for the Avila section, as well as the Yard Section showing the 5" extension required to incorporate Bridge No. 6 into the Yard section.

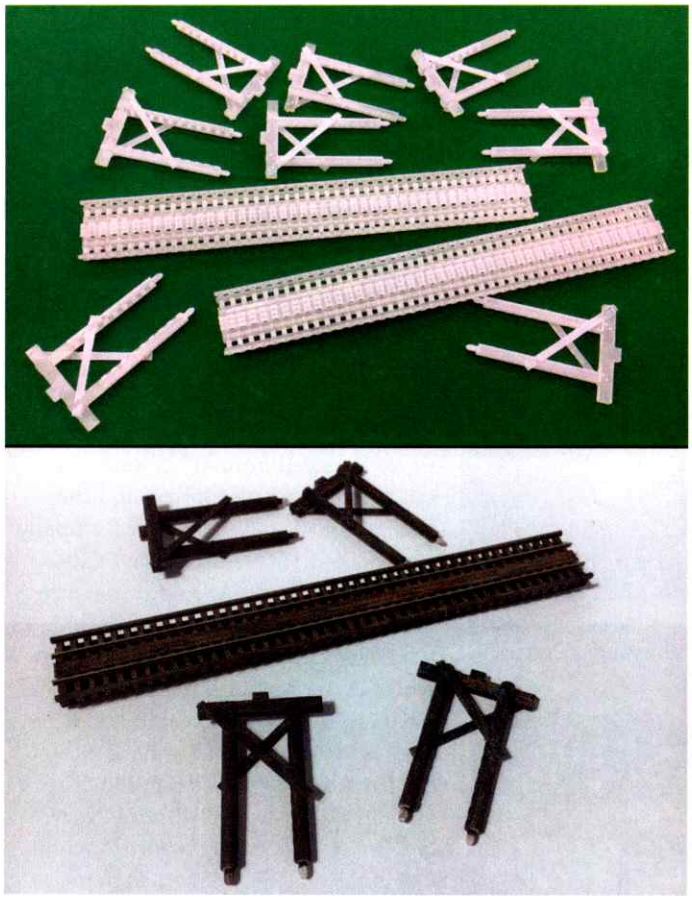


Photo 5: *Top* - the 3D-printed parts for Bridge No. 6; *bottom* – the parts for Bridge No. 6 after painting and weathering and installing Code 40 rail.

Photo 6: Bridge 6, temporarily installed to establish the height of track on the adjacent Avila section.

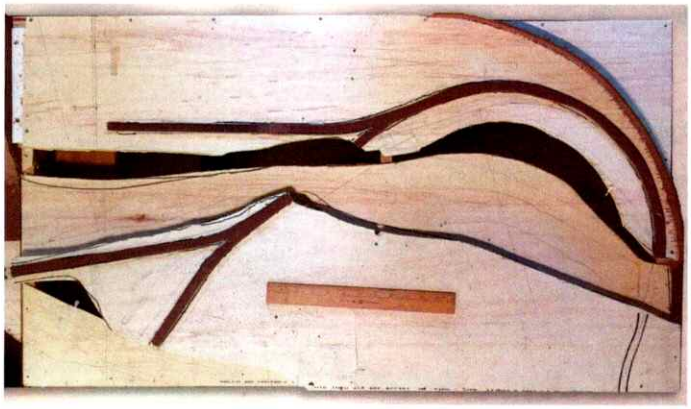


Photo 7: The Avila section with hardboard roadbed installed on portions of the ply baseboard, which have been elevated on risers.

track to flex track and ready-made turnouts within this section of the layout, as with the layout configuration, putting half of this section in a corner, I wanted the far reaches as maintenance-free as possible. I laid out the track to maintain a minimum radius of 10"-11" and use Atlas No. 6 Code 55 turnouts, which I reviewed in the Sep/Oct 2019 *N-Scale Magazine*, along with the Czech-made MTB switch machines.

To lay out the track plan for the Avila section on the new baseboard, I first projected the track in a straight line from Bridge No. 5 to where the track would cross the joint between the sections, establishing the location of the bulkhead of the right-of-way embankment on which the railroad made the transition from land to the Bridge No. 6 trestle. (I would only be able to model a small portion of Bridge No. 6 on the 5" extension of the Yard section.) The track plan in Figure 1 was transferred to the 3/16" plywood top of the baseboard. For this section of the layout, I decided to use the "cookie-cutter" method, but before cutting out the plywood, I needed to carefully determine how much to elevate the plywood where

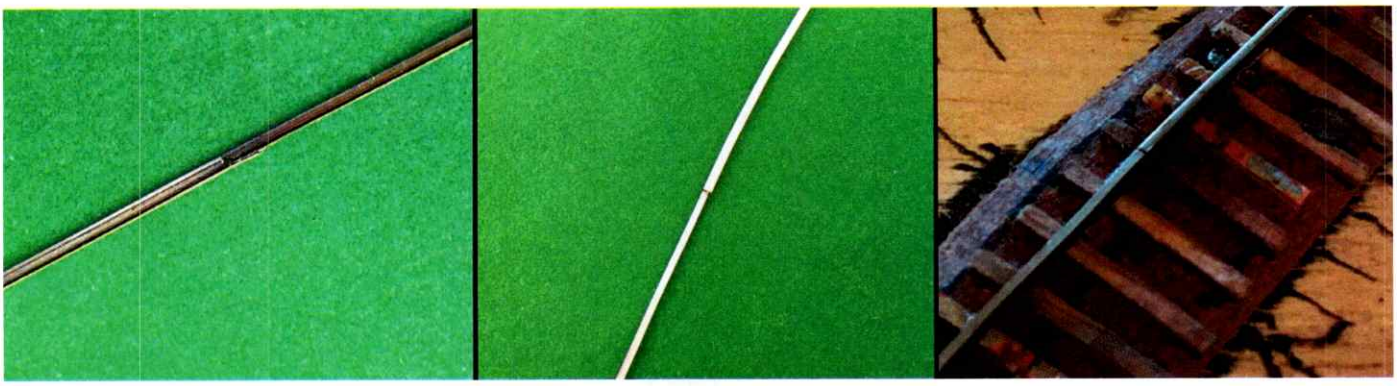


Photo 8: Transitioning from Code 40 to 55 rail: *left* – side view shows how Code 55 has been filed down to the base, creating a shelf to which the Code 40 is soldered; *middle* – bottom view of spliced rail; *right* – one of two rails installed, soldered to PCB ties – the shorter tie under the Code 55 rail is a pre-gapped tie from the 2MM Scale Nn3 Group, and is thinner than the PCB tie under the Code 40 rail, cut from Clover House tie stock; note the two small, round magnets placed between the ties and under the rails.

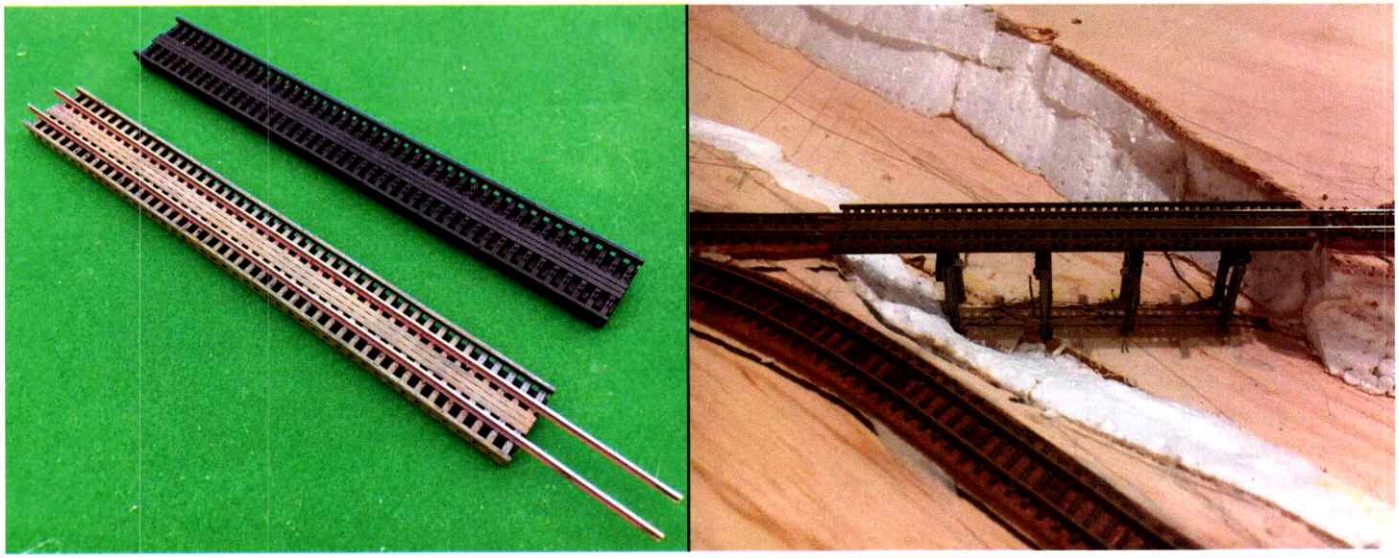


Photo 9: Bridge No. 7: *left* – 3D prints, the one on right primed with flat black paint, the one on the left weathered and with Code 55 rail installed; *right* – the bridge and trestle bents installed – the track in the foreground is the spur to the Port Harford Asphalt Co. – Code 55 rail in PECO Z/Nn3 plastic tie strip.

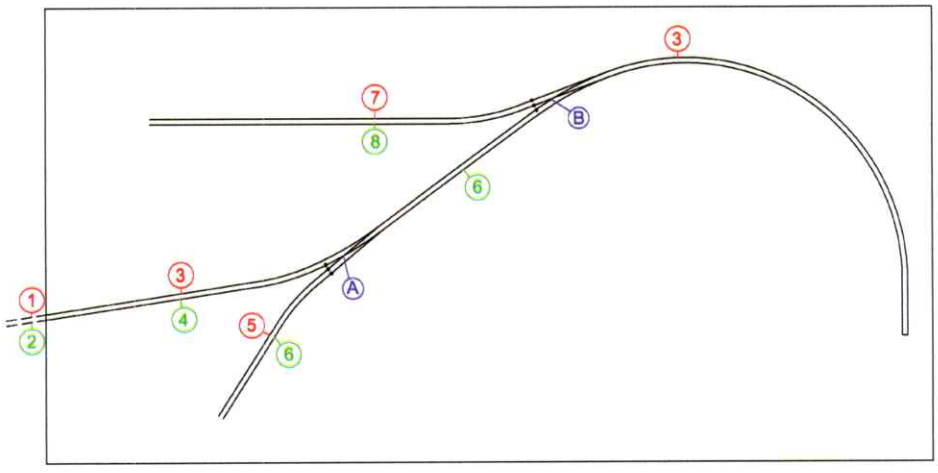


Figure 2: The electrical plan showing locations and numbering/color coding of track feeders.

the tracks would be laid. This meant constructing Bridge No. 6 on the Yard section. I modeled the bridge deck and the trestle bents in 3D and had a couple of sets printed by Shapeways (***Photo 5***).

I then drilled holes for the bents in the surface of the Yard baseboard, inserted the bents (***Photo 6***), attached Bridge No. 6 to Bridge No. 5, and using a level, determined the height of rail in the Avila section.

With the track plan more-or-less worked out on paper and transferred to the plywood top of the baseboard, I then cut the ply top along the beach and the bank of the creek, then removed the portions of plywood "ground" that would be up at just below track level, installing those sections on risers attached to the baseboard frame. The roadbed was cut from ⅛" hardboard and glued to the plywood with Liquid Nails (***Photo 7***).

There are several ways to transition from Code 40 to Code 55 rail, including stepped joiners, shimmed ties, and probably others. I tried something different this time. I filed a step in the end ¼" of a two-inch length of Code 55 rail down to the base of the rail. I then soldered a length of Code 40 to this shelf, aligning the tops of the two rails.

I spent much time and at least a couple of Rum Punches envisioning all sorts of jigs and fixtures to get this alignment right, but – in the end – did it by "eyeball." With the tops of the rails being slightly different in width, I touched up the inner edge with a file (***Photo 8***).

The two-inch Code 55 sections of rail made the transition from hand-laid Code 40 to the Atlas Code 55 turnout at the mainline and the spur to the beach. I used 2MM Scale Association pre-cut, pre-gapped, single-sided PC board ties for this transition section as they are .031" thick – a little thinner than the Clover house PCB ties I used under the Code 40 rail. After sanding the wood ties flush with the adjacent PCB ties, this helped with the transition in rail height. Hand laying the track on the beach spur and on the main to Bridge No. 6 proceeded, following the usual methods described in previous installments of this series.

Bridge No. 7 is another 3D-printed trestle section, this time with the spike configuration in the 3D model adjusted for Code 55 rail. The trestle bents were loosely installed in holes drilled in the plywood "creek bed", the bridge deck and a short bit of approach track installed between the two turnouts, then the bents were pulled up tight to the underside of the bridge deck before gluing the bents to the creek bed (***Photo 9***). Unlike Bridges No. 5 & 6, Bridge No. 7 is not removable.

The track at the Port Harford Asphalt Co. is not in-your-face foreground track, but is not "remote" either. I used PECO plastic flex track ties strips, but replaced the PECO Code 60 rail with weathered Micro Engineering Code 55 rail. I used PECO Nn3/Z flex track for the mainline track from the turnout at the asphalt company around the turn, eventually leading to San Luis Obispo. I have left the last bit from just before Bridge No. 8 to the edge of the section loose for now, while I resolve how to compress the ten miles from here to the San Luis Obispo section into 18 inches. (Where is the Rum Punch?)

With the track installed, I added 26AWG copper "magnet wire" feeders from the rails to a barrier strip under the layout, following the wiring convention in ***Figure 2*** (***Photo 10***).

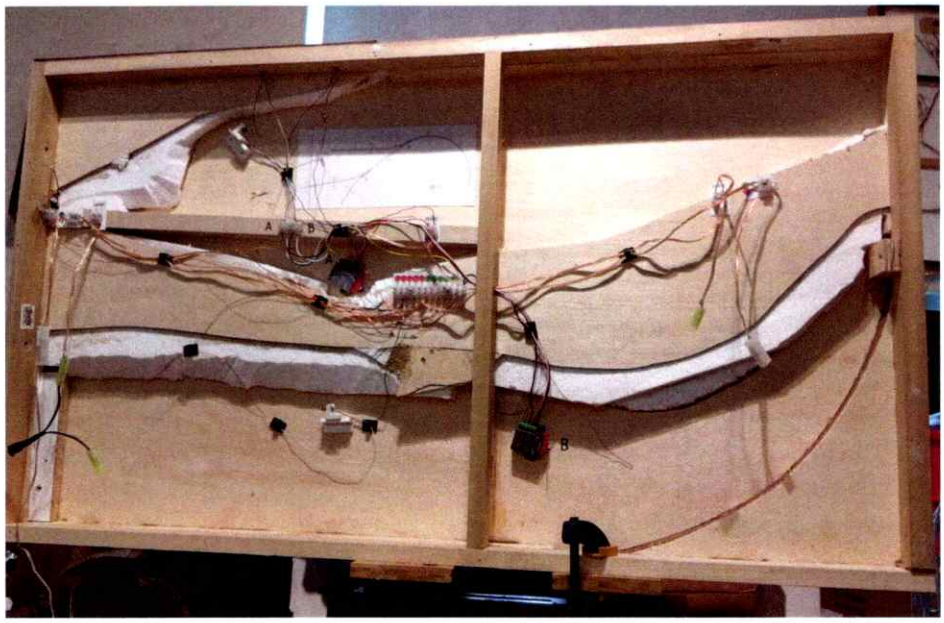


Photo 10: Feeder wires have been run from the different track sections and from turnout frogs and switch machines to a color-coded/numbered barrier strip near the center of the section.

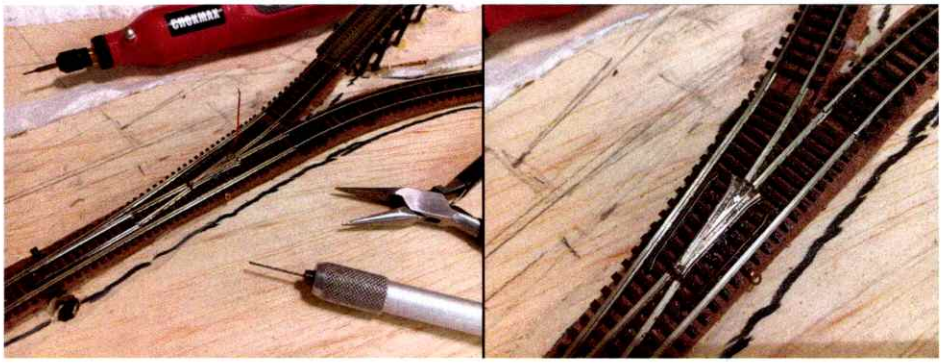


Photo 11: Repairing the Atlas Code 55 turnout frogs: *left* – 26AWG copper magnet wire threaded down through a hole drilled down through the frog casting and the top skin of the baseboard; *right* – a blob of solder on the end of the copper wire has been pressed firmly down into the hole in the frog, then filed smooth.

In running feeders to the frogs of the Atlas turnouts, I found the frogs were dead – no continuity between the cast metal frog and the electrical connection tab on the side of the turnout intended for this purpose. (I had not encountered this issue when I tested the turnout I reviewed in the Sep/Oct 2019 issue.) The copper tab is not mechanically fastened to the frog and relies on surface contact, which is not reliable. I mentioned this on our Nn3 iGroups forum and found out several other modelers had encountered the same issue. One of the other Nn3 modelers who had this problem drilled and tapped a hole in the frog, ran in a brass screw from the bottom, and soldered the feeder to the screw. I contacted Atlas, who said they are aware of the problem and the tab is now welded to the frog. Contact them directly (*csdept@atlasrr.com*) for a replacement, if you have this problem.

A screw from the bottom (perhaps through the contact strip) and into the frog on an uninstalled turnout would be a good prophylactic solution. For these already-installed turnouts, I drilled down from the top of the frog as suggested by members of the Nn3 group and installed a 26AWG copper feeder wire. I soldered a bead of solder to the end of the wire, pressed it tightly into the drilled hole, then filed it smooth with the top of the frog (***Photo 11***). While this works, I am concerned about keeping connectivity over the long-term. I may re-do by threading the hole and installing a screw as one of the other members of the group has done.

With track and electrical completed to a "pre-commissioning" stage, I pulled

Photo 12: The basic terrain: *left* – terrain roughed-out in polystyrene foam packing material; *right* – the contours have been faired-out with Celluclay, then painted with an earth-color flat latex paint.

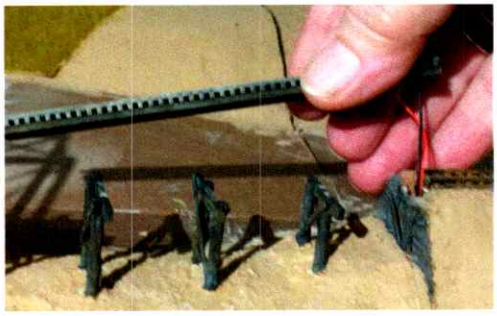


Photo 13: Bridge No. 6 electrical feeder wires with a miniature 2-pin connector fit down through a wire-way formed from a plastic straw.

Photo 14: Rail joiners: *left* – the bright-finish of the Micro Engineering Code 40 rail joiners; *inset* – untreated and blackened rail joiners; *right* – installed chemically blackened joiners.

Photo 15: Bridges No. 5 & 6 in place over the still-to-be "watered" mouth of San Luis Creek; the Port Harford Asphalt Company building is across the creek in the background.

out the blocks and sheets of recycled Styrofoam "beadboard" shipping padding and built up the landforms, gluing blocks in place with Liquid Nails and shaping them with a hot-wire tool. After rough shaping the terrain, I coated everything with a layer of pre-tinted Celluclay, leaving a patch bare at the town, which I will build later. When the Celluclay had thoroughly dried (a matter of a few days), I painted it with an earth-tone flat latex paint preparatory to scenery work (***Photo 12***).

Returning to Bridge No. 6, I completed the bulkhead at the embankment, complete with a wireway for the feeder, connecting the bridge rails to the land rails (***Photo 13***). Although I use rail joiners to physically align the rails at the section joints, I do not rely on them for the electrical connection. Right out of the package, metal rail joiners are a jarring contrast to weathered rail. I blacken the joiners with Birchwood-Casey Brass Black and they virtually disappear (***Photo 14***). With Bridges No. 5 and 6 in place and their wires connected under the baseboard, I can now run from the wharf all the way through the Avila section (***Photo 15***).

Photo 16: The golden rolling hills of Central California.

Photo 17: The transition from grass mat to static grass on the previously-constructed San Luis Obispo section of the layout. (Car barn and backdrop are not installed in this photo.)

IN THE TALL GRASS

This installation of scenery is proceeding in layers lagging behind the construction of baseboards, track and electrical, and creation of landforms as I work towards getting the layout operating from the Port into San Luis Obispo. This back-and-forth (some would say "three-steps-forward-and-two back") also allows me to vary the types of work I am doing on the layout, adding variety and maintaining interest.

For much of the year, the rolling hills of Central California from the coast to the foothills of the Sierras are a sea of knee-high golden grass (***Photo 16***). I remember a particular incident in the late 1960s when walking through the grass on the side of the hill overlooking San Luis Creek and Bridge No. 5 when a mountain lion popped up in front of me about 50 feet away. We stared at each other for a few seconds, and I guess I didn't resemble Lamb Chop, so the big cat turned and sauntered away in that tall grass. My new layout will have many square feet of this signature scenic feature. While I have a static grass applicator, the thought of creating all this with static grass was intimidating. On the portions of this layout I built first – the yard and headquarters of the railroad in San Luis Obispo – I simulated the grassy field to the east of the yard using a grass mat from Busch (No. 7214 "Kornfield") feathered into the layout surface with a static grass transition at the edges (Photo 17). This worked well for a flat area, but I was not sure how the grass mat would conform to rolling hills. The Busch product has a mildly "crepe-paper-like" texture embossed into the paper substrate intended to accomplish this, but I added random small (½") cuts in the paper across the back of the matt to further improve the ability to conform to two-way curves.

I cut shapes from the grass mat, test fitted each piece to the Celluclay landform, outlined the edges with a pencil, then cut into the Celluclay along the pencil line to create a depression on the grass mat side of the line to bring the mat close to flush with the adjacent surface. I then "mowed" the "grass along the edge with a Wahl hair/beard trimmer to help with the blending of static grass into mat grass (***Photo 18***). I glued the grass mat to the Celluclay and foam with a hot glue gun, working slowly from one edge of the mat to the other, pressing it down as I went. (Note that the hot glue may melt Styrofoam depending on the foam and the level of heat used.) After the mat was in place, I brushed on acrylic matt medium diluted with alcohol and water onto the Celluclay surface adjacent the matt and applied Woodland Scenics "Harvest

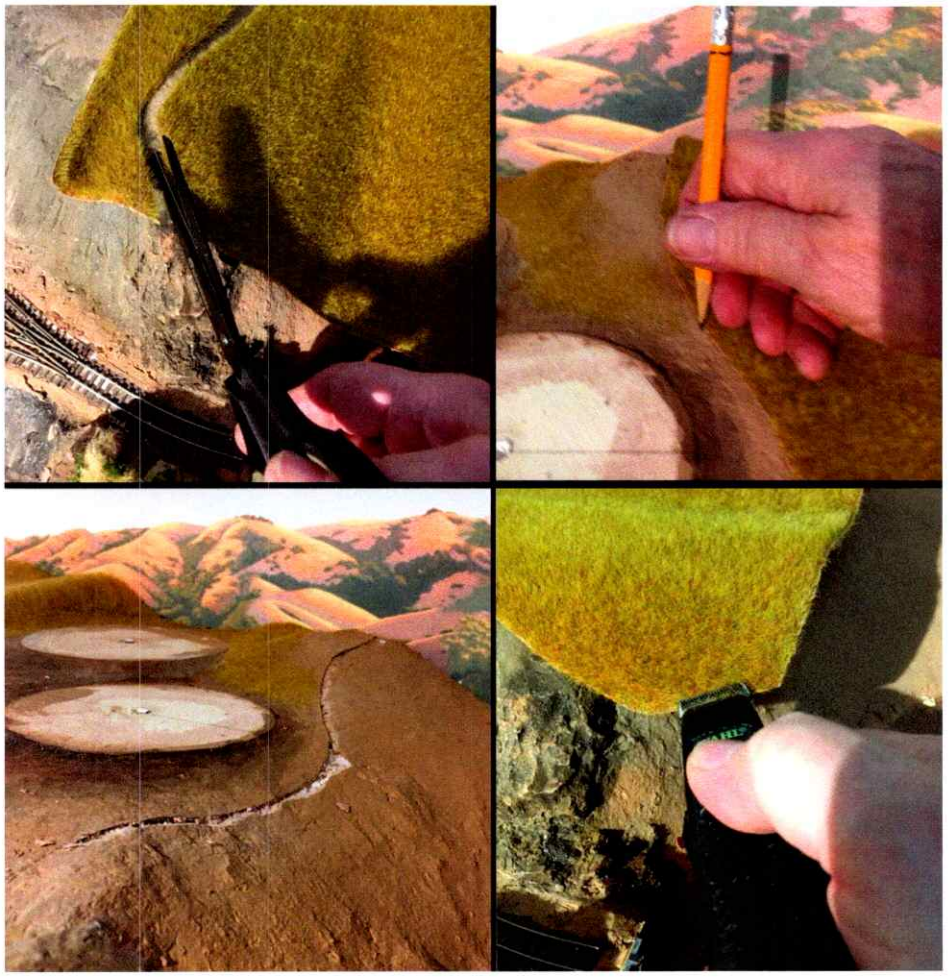


Photo 18: Preparing the Busch grass mat: *top left* – cutting the profile of the edge of the grass area; *top right* – marking terrain along edge of grass; *bottom left* – cut-in edge the grass mat backing will be feathered into; *bottom right* – trimming "grass" with hair/beard clipper.

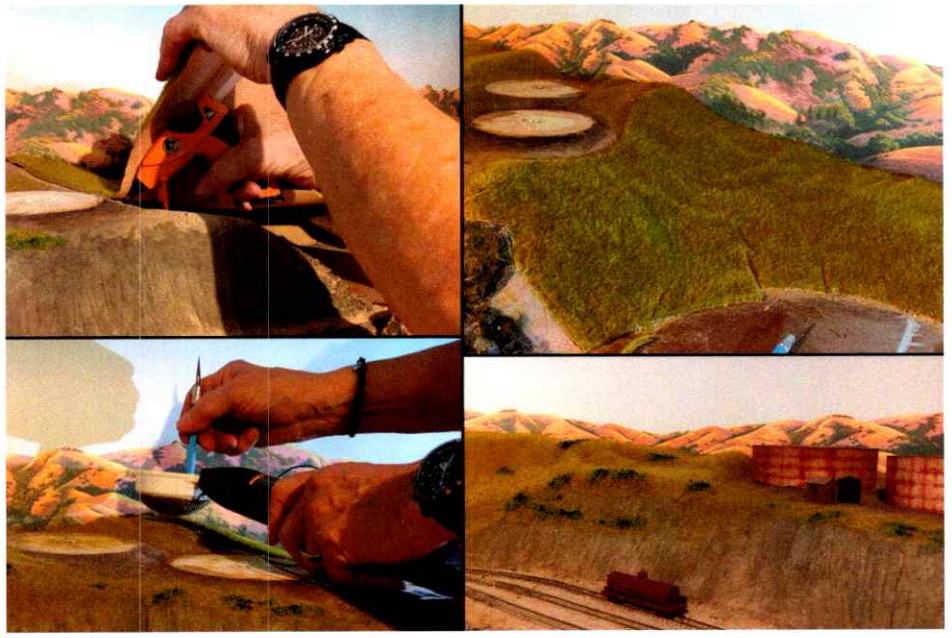


Photo 19: Installing and finishing "grass": *top left* – gluing grass mat in place with hot glue gun; *top right* – mat glued securely in place, including "interior" areas of hillside – note "darts" cut into matt to aid conforming to two-way curves, which will be filled with scraps of grass mat or covered with shrubs; *bottom left* – applying static grass around and up to the edge of the grass mat; *bottom right* – scene with blending of static and grass mat areas – more shrubs, scrub oak and some oak trees will be added later to more closely resemble the scene in *Photo 16* and as represented on the backdrop.

Gold" static grass with a pinch of their "Straw" 6mm grass blended in. After the matt medium had set, I went back and contoured the grass mat with an electric beard trimmer to blend the profile of the grass fibers of the mat with the adjacent static grass. This was followed by the random fixing of shrub material into the grass area (***Photo 19***). More shrub, scrub oak and oak tree material will be added later in successive passes until I am satisfied with the look or run out of Rum Punch.

"VIRTUAL CONVENTIONS", ZOOM MEETINGS, AND ONLINE CLINICS

Virtual meetings continue, including the bi-weekly Nn3 Zoom meeting hosted by Mark Fielder. Go to *groups.io/g/Nn3* to find out the schedule and get links to the next meeting. And don't forget to watch the free online NMRA clinics: *www.youtube.com/channel/UCHw-7-1FWB5zQgTM0ZVY-Yw*

FINALLY

... please e-mail me at *thomasknapp@att.net* with your comments, questions, and ideas for content. I would especially like to see the modeling of other Nn3ers out there that I could share with the readers of this magazine. Each reader out there has their own unique knowledge or skill which can be shared with the rest of us, so put pen to paper (or fingers to keyboard) and share with us. Also, manufacturers who have narrow gauge and shortline products and other products which help model the 19th and early 20th scene, please let me know.

1 *Images of America: Avila Beach* – Filippo, Filippo & Kelley – Arcadia Publishing (ISBN-13: 978-1-3073-8) *www.arcadiapublishing.com/series/images-of-america-books*

2 *Ships & Narrow Gauge Rails* – Best – Originally published by Howell North (ISBN-13: 978-0831070427) – reprint available at: *www.amazon.com/Ships-Narrow-Gauge-Rails-Pacific/dp/0831070420*

3 *The Pacific Coast Railway: Central California's Premiere Narrow Gauge* – Johnson & Westcott – Benchmark Publications (ISBN 10: 0961546743, ISBN 13: 9780961546748) *bobhayden.com/index.php?main_page=product_info&cPath=0&products_id=28*

the hobby shop pages

ARIZONA

APACHE JUNCTION
Obies Trains
2114 W. Apache Trail
Suite 11
85120 480-203-1796

BURBANK
Burbank's House of Hobbies
911 S. Victory Blvd.
91502 818-848-3674
www.houseofhobbies.com
bhh@houseofhobbies.com

HEMET
Dynamic Hobbies
811 E. Florida Avenue
92543 951-925-9331
www.dynamichobbies.net
Check us out on Facebook

WESTMINSTER
Arnie's Model Trains
645 Industry Way
92683 714-893-1015

PASADENA
The Original Whistle Stop
2490 E. Colorado Blvd.
91107 626-796-7791
www.thewhistlestop.com
trainmaster@thewhistlestop.com

YUBA CITY
The Western Depot
1650 Sierra Avenue #203
95993 530-673-6776
info@westerndepot.com
www.westerndepot.com

CONNECTICUT

COS COB (Greenwich)
Ann's Hobby Center
405 E. Putnam Avenue
06807 203-869-0969

WINSTED
RR Model & Hobby Supply
100 Whiting Street
06098 860-379-3383
sales@rrhobbysupply.com

FLORIDA

MELBOURNE
TRF Trains & Mnt Hobbies
2715 N. Harbor City Blvd.
Suite #10/11
32935 321-241-4997
trftrains@cfl.rr.com
www.trf-trains.com

ORLANDO
Colonial Photo & Hobby
634 N. Mills Avenue
32803 407-841-1485

PENSACOLA
Trains by Johnson
10412 North Palafox St.
32534 850-478-8584
www.trainsbyjohnson.com

SPRING HILL
Dana's Railroad Supply
4042 Deltona Blvd.
34606 352-684-2484
dana@danasrailroadsupply.com
www.danasrailroadsupply.com

ILLINOIS

ALSIP
Hands to Work Railroading
12318 South Cicero
60803 708-489-9776
handstoworkrr@comcast.net

CHICAGO
Chicagoland Hobby
6017 N. Northwest Hwy.
60631 773-775-4848
www.chicagoland-hobby.com

DOWNERS GROVE
Timberline Train Shop Ltd.
5228 Main Street
60515 630-324-6136
sales@timberlinetrainshop.com
www.timberlinetrainshop.com

MARION
Chuck Depot
1913 W. Rendleman St.
62959 618-993-9179
chucks@midamer.net

MASSACHUSETTS

TYNGSBORO
Hobby Emporium
440 Middlesex Road
01879 978-649-5055

NEBRASKA

DESHLER
Spring Creek Model Trains
PO Box 304
304 E. Bryson Avenue
68340 402-365-7628
www.springcreekmodeltrains.com
customerservice@springcreekmodeltrains.com

OMAHA
House of Trains
8106 Maple Street
68134 402-934-7245
www.houseoftrains.com

NEW HAMPSHIRE

MANCHESTER
Boston & Albany Hobbies
836 Candia Road
03109 603-305-5023

NEW MEXICO

ALBUQUERQUE
Wig-Wag, LLC
3540 Pan American
Freeway NE
87107 1-888-298-7177
www.wig-wag-trains.com

NORTH CAROLINA

LANDIS
Chuck's Trains
129 S. Central Avenue
28088 704-855-7245
www.chuckstrains.com

SPENCER
Little Choo Choo Shop
500 S. salisbury Avenue
28159 1-800-334-2466
info@littlechoochooshop.com

OREGON

PORTLAND
The Hobby Smith
1809 NE 39th Avenue
97212 503-284-1912
1-877-284-1912 Toll Free
hobbysmith@hobbysmith.com
www.hobbysmith.com

PENNSYLVANIA

PITTSBURGH
Esther's Hobby Shop
219 North Avenue
15209 412-821-2415
esthers@esthershobby.com
www.esthershobby.com

TEXAS

AMARILLO
Hobby Time
3601 Airway Blvd.
79118 806-352-9660
www.hobby-time.com
sales@hobby-time.com

VIRGINIA

CHANTILLY
Train Depot
13944 Willard Rd. Ste 1
20151
Phone: 703-953-3767
www.traindepot.biz

eBay Store:
traindepotonline

New & Used- Bought & sold N scale

WASHINGTON

KIRKLAND
Eastside Trains, Inc.
217 Central Way
98033 425-828-4098
eastsidetrains@msn.com

CANADA

ONTARIO
Dundas Valley Hobby
15 Cootes Drive
Dundas L9H 1T5
905-628-9156

Look for your Favorite Hobby Shop in

N-SCALE MAGAZINE!

To advertise, call

(360) 658-2485

Only $40 per issue.

YARD SALE TRAINS

YardSaleTrains.com

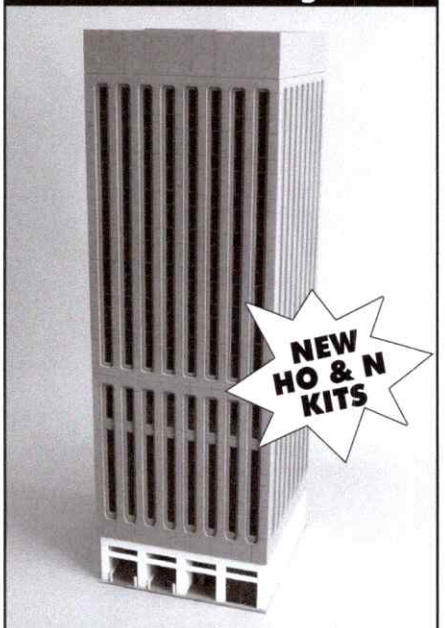
MODEL TRAINS - BUY - SELL - BROWSE

Atlas
MTL
Kato
DC or DCC
Scenery
Track
Tools
Bridges
Details
Buildings

We have out of stock, hard to find, gems from collections we receive from all over the country

YardSaleTrains.com
(720) 840-7274

CMR KITS
WAVERLY TOWER
Laser-cut Building Kit



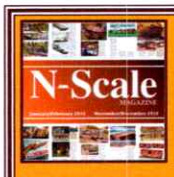
EMPIRE PRINTING
Laser-cut Building Kit

410-889-0010
Visit our website to see these and more kits from CMR
www.custommodelrailroads.com

30,000+ Products In-Stock?
Real-Time Inventory?
Great Prices?
Check, Check & Check.

Why shop anywhere else?

MODEL TRAIN Stuff
modeltrainstuff.com 888.410.2672



30-YEARS OF N-SCALE MAGAZINE
NOW AVAILABLE ON CD!

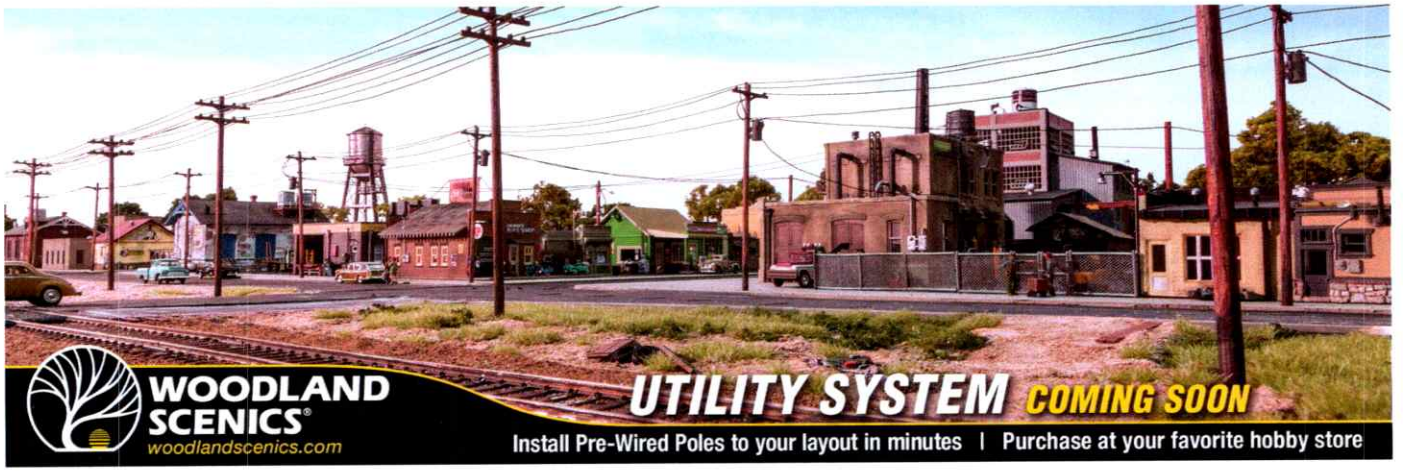
VOLUME 6: Jan/Feb 2014 - Nov/Dec 2019
www.nscalemagazine.com

PLATINUM RAIL PUBLICATIONS
5811 75th Avenue NE
Marysville, WA 98270
(360) 658-2485

PNP TRAINS

SPECIALIZING IN N-SCALE MODEL TRAINS & ACCESSORIES

Visit us at pnptrains.com
425-496-8844
pnptrains@comcast.net
Facebook: PnP Trains
eBay: Ombra



WOODLAND SCENICS®
woodlandscenics.com

UTILITY SYSTEM COMING SOON
Install Pre-Wired Poles to your layout in minutes | Purchase at your favorite hobby store

March/April 2021 Advertiser's Index

Blair Line 9
www.blairline.com

Broadway Limited 8
www.broadway-limited.com

Custom Model Railroads 61
www.custommodelrailroads.com

Fifer Hobby Supply, LLC 5
www.fiferhobby.com

Hobby Shop Pages 60
www.nscalemagazine.com

ITLA Scale Models 7
www.itlascalemodels.com

JTC Model Trains 3, 63
www.jtcmodeltrains.com

Kato, USA 2
www.katousa.com

MB Klein 61
www.modeltrainstuff.com

Micro-Trains 7
www.micro-trains.com

National Capital Trains 9
www.trainweb.org/nctrains/

N Scale Enthusiast 62
www.nscaleenthusiast.com

N-Scale Magazine 7, 61
www.nscalemagazine.com

Pacific Western Rail Systems 5
www.pwrs.ca

PNP Trains 61
www.pnptrains.com

Rapido Trains 64
www.rapidotrains.com

Scale Trains 9
www.scaletrains.com

Streamlined Backshop 9
www.sbs4dcc.com

Trainworx, Inc. 5
www.train-worx.com

White River Productions 5
www.whiteriverproductions.com

Wig-Wag, LLC 9
www.wig-wag-trains.com

Woodland 61
www.woodlandscenics.com

Yard Sale Trains 61
www.yardsaletrains.com

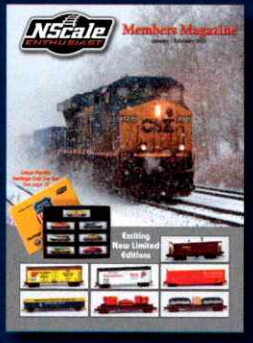
NScale ENTHUSIAST

Membership has its benefits!

If you are an N Scale Enthusiast, and every Ntrakker is – You should share your passion for your favorite scale by being a member of The N Scale Enthusiast!

Working to preserve the history of N Scale, and grow the scale along with our friends at Ntrak, we offer mega benefits to the membership:

- A very informative magazine 5 times a year!
- Manufacturers and Latest releases in every issue
- Member only Special Runs both prototype and fantasy
- Multi Medium Special Runs that are scratch-built on a grand scale
- Member listings in the Trovestar peer to peer marketplace
- Annual Membership car included at no extra charge
- National N Scale Convention annually
- Free Classified Ads- For Sale and Wanted listings
- Web Resources



The N Scale Enthusiast
P.O. Box 30489
Savannah, GA 31410

www.NScaleEnthusiast.com

Join up for more N Scale Fun!

537009 Estes / 205243 Contank 20' tank

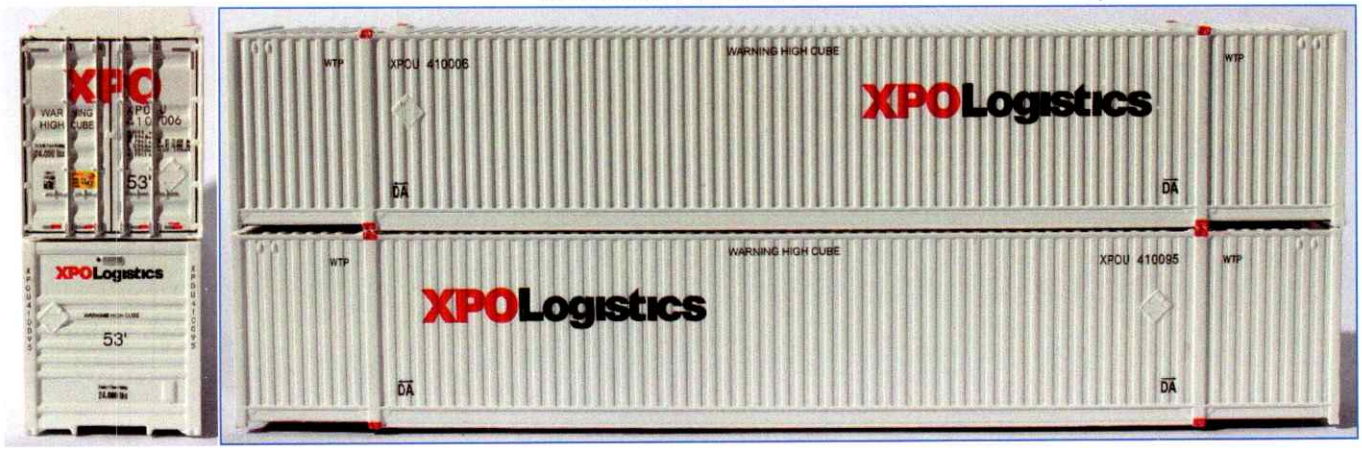
537014 UNIVERSAL W/ Flammable liquid placards

53' 8-55-8 corrugated 2-vent IB sides w/ placard; 10-ribs vertical Front w/ placard; 0-3-1 Rear doors w/ placard;
UTLU110015 + UTLU110062

Q1 2021 Releases See Dealers

537015 XPO LOGISTICS

53' 8-55-8 corrugated 2-vent sides w/ placard
1-3-1 Front w/ placard, doc. box & GPS device
1-3-1 Rear doors w/placard
XPOU410006 + XPOU410095



www.jtcmodeltrains.com

THERE'S A COMET SIGHTING...

N SCALE

AMT
MONTREAL

CONNDOT
CONNECTICUT

MBTA
BOSTON

MNCR
METRO NORTH

NJ TRANSIT
NEW JERSEY

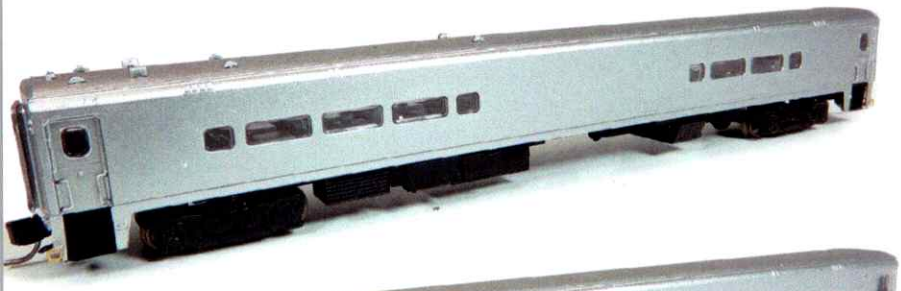
SEPTA
PHILADELPHIA

... PLUS UNDECORATED

PRE-PRODUCTION SAMPLES, SUBJECT TO REVISIONS BEFORE PRODUCTION.

- Fully-controllable interior and exterior lighting in both DC and DCC
- Full interior detail including individual seats
- Unparalleled underbody detail including all piping and boxes
- Highly-detailed Free-rolling Inside-bearing trucks with metal wheelsets

...ON THE "HORIZON"



PRE-PRODUCTION SAMPLES, SUBJECT TO REVISIONS BEFORE PRODUCTION.

- Coach, Dinette and Club Dinette cars available
- Full underbody details unique to each car style
- Constant interior and marker lights in DC and DCC
- Folding steps or fixed stairs as appropriate
- GSI G70 trucks with free-rolling, turned-metal wheelsets

AMTRAK
Phase III (Narrow)

AMTRAK
Phase III (Wide)

AMTRAK
Phase IV

AMTRAK
Phase VI

AMTRAK
California

... PLUS UNDECORATED

CONTACT YOUR RETAILER OR ORDER DIRECT AT RAPIDOTRAINS.COM

RAPIDO TRAINS INC.®

RAPIDO

Quality. Style. Spirit.™

rapidotrains.com • youtube.com/RapidoTrains • facebook.com/RapidoTrains